Proceedings of the Director,
State Institute of Rural Development and Panchayat Raj,
Maraimalainagar – 603 209.

Present: Thiru.P.Selvarajan

Proc.No1307/CLWE/2022, Dt08.01.2024

Sub:-	State Institute of Rural Development &Panchayat Raj, Tamil Nadu– Handholding supports for CB& T activities in collaboration with AI/IoE under Revamped RGSA scheme-Reg
Ref:-	1. Joint Secretary , MoPR D.O Lr No M-11015/148/2023-CB dated 24.08.2023 2. Minutes of the committee meeting held on 01.12.2023

Order

MoPR has approved handholding support for CB& T activities in collaboration with AI/IoE under Revamped RGSA scheme for which Standard Operating Procedure has been communicated.

A Workshop with UBA Institutions and NGOs was conducted during November 25-26 2023 at SIRD & PR, Maraimalai Nagar for providing Handholding Support for GPDP Formulation by Academic Institutions. RGSA has given provision of Rs 20000/- per GP for Academic Institutions for providing Handholding Support for Panchayats in GPDP Formulation.

A committee was constituted for Handholding supports for CB & T activities in collaboration with AI/IoE. As per the resolution of the committee, Rs 20000/- may be given to the Institutions for Providing support for Gram Panchayat Development Plan (GPDP) Formulations in selected Villages/Blocks/Districts

1. Rs 10000/- may be provided as First Instalment on identification of Panchayats, submission of applications and after executing MoU under Revamped RGSA
2. Second Instalment of Rs 10000/-after preparation and updationof GPDP and submission of report for execution of atleast 10 lowcost , no cost activities.

The following colleges coordinated by Gandhigram Rural Institute have been approved by the Committee for sanction of 1st instalmnent for handholding support for GPDP formulation.

Accordingly, the following colleges under Unnat Bharat Abiyan may be provided Rs.10000/- per Gram panchayat as first instalment in the first phase for providing handholding support for GPDP formulation.

PRINCIPAL
Rohini College of Engineering & Technology
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Palkulam, Variyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

Institutions/Organisations

S.No	Name of the Institute / College	District	Name of the Panchayat for which handholding to be done	Total number of villages	I Instalment (Rs)@ Rs10000/- per GP
1.	The Gandhigram Rural Institute-(Deemed to be University)	Dindigul	1. Alamarathupatti	11	110000
			2. Pithalaipatti		
			3. Gandhigram		
			4. Kalikampatti		
			5. Thoppampatti		
			6. Pillaiyarnatham		
			7. N.Panjampatti		
			8. Munnilaikottai		
			9. Palayamkottai		
			10. Ayyankottai		
			11. Chettiapatti		
2	Thiagarajar College	Madurai	1. Veppadappu	3	30000
			2. Punjutti		
			3. Sakkudi		
3	Madurai Institute of Social Sciences	Madurai	1. Y.Pudupatti	3	30000
			2. Kadakinaru		
			3. Rajakkalpatti		
4	Anna University Regional Campus	Madurai	1 Keelakuilkudi 2 Melakuilkudi	2	20000
5	MangayarkarasiCollege of Arts & Science for Women	Madurai	1. Kutladampatti	2	20000
			2. Ramayanpatti		
6	Lady Doak College	Madurai	1. Velichanatham	2	20000
			2. Malaipatti		
7	Saraswathi Narayanan College	Madurai	Perungudi	1	10000
8	AlagappaChettiyar Government College of Engineering & Technology	Sivagangai	1.Aaravayal	5	50000
			2.Shanmuganathapuram		
			3. Iluppaikudi		
			4. Kundrakudi		
			5.. Palavankudi		
9	The Standard Fireworks Rajaratnam College for Women	Virudhunagar	1.Athikulam	3	30000
			2Kongalapuram		
			3. Maraneri		
10	Sethu Institute of Technology	Virudhunagar	1Aviyur	5	50000
			2. Kambikudi		
			3. Kalkurichi		
			4. S.Kallupatti		
			5 Thonugal		
11	Ramco Institute of	Virudhunagar	1. Mamsapuram	2	20000

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	Technology		2. Zaminkollankondan		
			3. Pillaiyarkulam		
12	AyyaNadarJanakiAmmal College	Virudhunagar	1.Devarkulam	1	10000
13	St.Xavier's College	Tirunelveli	1. Tharuvai	5	50000
			2. Nanjankulam		
			3. Nochikulam		
			4. Mavadi		
			5. Koonthakulam		
14	St.Ignatius College of Education	Tirunelveli	1Maruthur	5	50000
			2 Melaputhaneri		
			3 Naduvakurichi		
			4 Pudukulam		
			5. Udaiyarkulam		
15	National Engineering College	Thoothukudi	1. Vanaramutti	1	10000
16	V.O.Chidambaram College	Thoothukudi	1.Vadakkusilukkanpatti	2	20000
			2. Mappilaiurani		
17	Holy Cross Home Science College	Thoothukudi	1. Ammanpuram	5	50000
			2. Moolakkarai		
			3. Melaputhukudi		
			4. Sindalakarai		
			5. KeelaEral		
18	Syed Ammal Engineering College	Ramanathapuram	1. Lanthai	1	10000
19	Mohamed Sathak Engineering College	Ramanathapuram	1. Thilayendhal	3	30000
			2. Mayakulam		
			3. Kalari		
20	PuratchiThalaivarDr.MGR Arts and Science College for Women	Ramanathapuram	1. KeelaNagachi	5	50000
			2. Valantharavai		
			3. Rettaioorani		
			4. Pudhumadam		
			5. Maanangudi (Nochioorani)		
21	Rohini College of Engineering and Technology	Kanyakumari	1. Kovalam	3	30000
			2. Leepuram		
			3. Nalloor		
22	Sarada Krishna Homoeopathic Medical College	Kanyakumari	1. Ayacode	3	30000
			2. Aruvikkarai		
			3. Vellamcode		
23	Holy Cross College	Kanyakumari	1.Keasavanputhenthurai	2	20000
			2.. Pallamthurai		
	TOTAL			76	760000

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Sanction is hereby accorded to 23 Academic Institutionsas above for release of I instalment @ Rs 10000/- per GP and hence Rs 7.60 lakh is released to 23 Academic Institutions for total 76 gram panchayats in the Ist phase.

The expenditure is debitable under RRGSA account.- other activities under capacity Building and training – Handholding support for GPDP formulation by academic institutions.

The Institutions may proceed with handholding support for GPDP formulation and implementation of the GPDP in the selected Gram Panchayats

Sd/-P.Selvarajan
Director

To
The Institutions as above
Copy to
Stock file
Bill

//By order//

Joint Director

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S.No.	College Code & College Name:	NMNT Id	Faculty Guide	Team Member Name	AMOUNT
758	6135-Government College of Engineering, Dharmapuri	NMNT895	Dr.S.Sathyapriya	Arun Prakash K, Mohammed Faize A, Rohan Prasad K, Sivachandru S	10,000
759	6218-PGP COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT896	Mrs.S.Narmatha	G Vijayaraman, K Saravanan, M Gokul, P Saravanan	10,000
760	7377-K.S.RANGASAMY COLLEGE OF TECHNOLOGY	NMNT897	R.Baskar	Sneka T, Vasanth S, Yazhini S	10,000
761	7377-K.S.RANGASAMY COLLEGE OF TECHNOLOGY	NMNT898	Mrs.S.S.Thamilselvi	Sairam Vs, Sneka C, Vasudevan S	10,000
762	7377-K.S.RANGASAMY COLLEGE OF TECHNOLOGY	NMNT899	Dr.R.Chithra	Teijas A P, Thangavel G, Vasantheeswaran R	10,000
763	6129 - Vivekanandha College of Engineering For Women	NMNT900	Mrs.G.Sasikala	E.Raveena, R.Yamini, Vagicharla Rama Tulasi	10,000
764	6129 - Vivekanandha College of Engineering For Women	NMNT901	Mrs.K.Rajeswari	Sathvi.S, Senaka.B, Snega.C	10,000
765	7377-K.S.RANGASAMY COLLEGE OF TECHNOLOGY	NMNT902	Dr.B.G.Geetha	Sandhiya G, Shalini A, Sharmila M	10,000
766	6114 - MAHENDRA ENGINEERING COLLEGE FOR WOMEN	NMNT903	J.Jayanthi	Keerthana S, Kowsika V, Pavithra I, Sivashankari S	10,000
767	7377-K.S.RANGASAMY COLLEGE OF TECHNOLOGY	NMNT904	Mrs.M.Devaki	Aadhavan K, Divya R K, Keerthi Krishnan P	10,000
768	6177-GOVERNMENT COLLEGE OF ENGINEERING - SALEM	NMNT905	Dr M Dhinakaran	Gayathri A, Jothika S, Meena N, Pavithra M	10,000
769	6178-SONA COLLEGE OF TECHNOLOGY	NMNT906	Aldo Stalin J.L	Giridharan P, Jagan B, Monish P, Perla Madhava Reddy	10,000
770	6102-ANNAPOORANA ENGINEERING COLLEGE	NMNT907	B Nandhagopal	Arunprakash.N, Hariharan.G, Jeevaragamani.V, Santhosh.M	10,000
771	6177-GOVERNMENT COLLEGE OF ENGINEERING - SALEM	NMNT908	Prof.P.Sathishkumar	Sarath Babu V, Sivaranjeni S, Subharanjana D K, Venkatanathan S	10,000
772	5133-University College of Engineering ARNI	NMNT909	Dr.J.Santhanakrishnan	Elangovan P, Jayabharath A, Mohanraj I, Suriya Ks	10,000
773	5122-S.K.P. ENGINEERING COLLEGE	NMNT910	S.Archana	Dhanalakshmi M, Mohanapriya E, Nivetha S, Oviya P	10,000
774	9602-ARUNACHALA COLLEGE OF ENGINEERING FOR WOMEN	NMNT912	Ms.M.Amutha	K S Sathyalakshmi, M Najula Sithicka, R L Uthra, S Snekha	10,000
775	9633-ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT914	Dr. J.Sahaya Ruben	Alfina.M, Jerisha.C, Karolin.R, Monica Mol.M	,000

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S.No.	College Code & College Name:	NMNT Id	Faculty Guide	Team Member Name	AMOUNT
776	9534-V V College of Engineering	NMNT915	Dr.G.Sumilda Merlin	Alaguvel M, Kannan B, Sivasrithar G, Suyambu Surya K	10,000
777	9508-Government College of Engineering	NMNT917	Dr.D.Jebakani	Selvaraja A, Subashree B, Vinoth R, Xavier Melkin A	10,000
778	9202-CHETTINAD COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT918	D.Santhiya	Ashwini.S	10,000
779	8135-ROEVER ENGINEERING COLLEGE	NMNT919	Mr.M.Nallusamy	D Gobbi, K Senthamilselvan, M Rayappa, S Anbarasan	10,000
780	9116-MOTHER TERASA COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT920	J Sophia	G. Sivasakthi, P. Dinesh Kumar, R. Rajkumar, S. Balakrishnan	10,000
781	8147-SRM TRP ENGINEERING COLLEGE	NMNT921	M Anitha	Manikandan S, Megas C, Raechal Freeda A, Yogesh M S	10,000
782	6213-Kongunadu College of Engineering and Technology	NMNT923	Mr.T.Muthukumar	Abirami M, Bavithra R, Jayashree C	10,000
783	8120-M.A.M. COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT924	Mrs.B.Rama	Abder Shaheen A M, Abdul Kader S H, Sancheevi R	10,000
784	2117 - Rajalakshmi Institute of Technology	NMNT925	Dr. Arthi A	Joel Joseph, Madhumitha R	10,000
785	3123-ST.JOSEPH'S COLLEGE OF ENGINEERING	NMNT926	Rameshbabu.M	Ahmed Musthafa M A, Arunkumar P, Bharathraj M, Dhshagireevan S	10,000
786	5113- Kingston Engineering College	NMNT927	S Sarah	Atchaya S, Boomika G U, Revathi S, Sweatha C	10,000
787	7214-NEHRU INSTITUTE OF ENGINEERING AND TECHNOLOGY	NMNT929	Dr. S. Subasree	K.S.Chandru, L.Dhinesh, M.Karthik, R.Shathiyapriyan	10,000
788	7127 - HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT930	Mr.Kathirvel K	Sanjay. R, Santhoshshivan. B, Vaseekaran. D	10,000
789	9217-SETHU INSTITUTE OF TECHNOLOGY	NMNT932	Dr.Lalitha	Joanna Reshmi N, Mahima S, Pavithira S	10,000
790	9217-SETHU INSTITUTE OF TECHNOLOGY	NMNT933	Dr G Soundradevi	Ramanathan P, Ronald G Richards J, Salai Sivam R	10,000
791	6129 - Vivekanandha College of Engineering For Women	NMNT935	Mr.J.Divakaran	Gopika S, Karthiga N S, Lalithambigai S	10,000
792	9508-Government College of Engineering	NMNT936	P.E.Irin Dorathy	Alagu Velan G, Guru Prakash G	0

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Declaration Form

1. Name of the College: ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY

2. College code: 9633

3. Theme: EXPERIMENTAL INVESTIGATION OF WATER QUALITY THROUGH INDEX METHOD FOR PAZHAYAR RIVER, KANYAKUMARI.

4. Problem statement:

The Pazhayar River at Kanyakumari has a vital water resource in the region, plays a crucial role in supporting various ecological, agricultural, and domestic activities. However, rapid urbanization, industrialization, and agricultural practices have raised concerns about the water quality in Pazhayar River. To ensure the sustainability of this critical water source, there is an urgent need to conduct a thorough experimental investigation using an Index method.

The existing pollution levels in Pazhayar River need to be quantified and assessed comprehensively to understand the extent of contamination and identify potential sources. The Index method, a widely accepted tool for water quality assessment, offers a systematic approach to evaluate multiple parameters, including physical, chemical, and biological

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employing this method, the study aims to provide a holistic understanding of the current water quality status in Pazhayar River.

5. Faculty Guide Details:

Guide Name : Dr.J.Sahaya Ruben

Designation: Professor

Mobile No: 9894176118

Email id: rubenjsr1@gmail.com

Team Leader Name	Reg.No	Year	Department	Mobile No
1. Alfina.M	963320103008	IV	Civil Engineering	9629630482
Team members				
1. Jenisha.C	963320103036	IV	Civil Engineering	9384528219
2. Karolin.P	963320103042	IV	Civil Engineering	9600736293
3. Monica Mol.M	963320103055	IV	Civil Engineering	6369180062

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6. Detailed Work Plan from 12th March-2024 to 30th May-2024

Phase 1: Preparatory Work (March 12, 2024 - March 31, 2024)

1. Literature Review and Research Design

- Review existing literature on water quality assessment methods, especially index methods applicable to river ecosystems.
- Design the methodology for conducting water quality assessment through index methods tailored to Pazhayar River's ecosystem.

2. Procurement of Equipment and Materials

- Identify and procure necessary equipment for water sampling, testing, and analysis.
- Ensure availability of all required materials such as sample containers, chemicals, and safety gear.

3. Site Survey and Data Collection

- Conduct a preliminary survey of Pazhayar River to select sampling sites representative of different sections and conditions.
- Gather baseline data on environmental parameters such as temperature, pH, dissolved oxygen, and conductivity.

Phase 2: Field Work (April 1, 2024 - April 30, 2024)

1. Sampling Campaign

- Execute regular sampling campaigns at predetermined sites along Pazhayar River.
- Collect water samples at various depths and locations to capture spatial and temporal variations.

2. In-situ Measurements

- Perform in-situ measurements of key water quality parameters using portable probes and meters.
- Record observations on-site and maintain detailed logs for each sampling event.

3. Data Management

- Ensure proper labeling, preservation, and transportation of water samples to the laboratory.

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- Organize collected data into a centralized database for subsequent analysis.

Phase 3: Laboratory Analysis (May 1, 2024 - May 15, 2024)

1. Water Quality Analysis

- Conduct laboratory analysis of water samples for various parameters including nutrient levels, heavy metal concentrations, and microbial content.
- Follow standardized protocols for sample preparation and analysis to ensure accuracy and reliability.

2. Index Calculation

- Calculate water quality indices such as the Water Quality Index (WQI) or other applicable indices based on measured parameters.
- Interpret index values to assess the overall water quality status of Pazhayar River and its variations over time.

Phase 4: Reporting and Documentation (May 16, 2024 - May 30, 2024)

1. Data Interpretation

- Analyze the results of laboratory tests and index calculations to identify trends, patterns, and potential sources of water quality degradation.

2. Report Writing

- Prepare a comprehensive report summarizing the methodology, findings, and conclusions of the study.
- Include graphical representations, tables, and maps to illustrate key findings effectively.

3. Presentation and Dissemination

- Create presentations summarizing the research findings for dissemination to stakeholders, policymakers, and the scientific community.
- Present the findings at relevant conferences, workshops, or seminars to raise awareness and facilitate discussion on water quality management strategies for Pazhayar River.

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7. Details of Financial Assistance required

SI. NO	Details of Financial Assistance	Description	Price	Total
1.	**Laboratory Supplies**	Chemicals	3,500	3,500
2	**Transportation**	Fuel expenses	1,500	2,000
		Vehicle maintenance	500	
3	**Documentation and Reporting**	Report Preparation	2,000	2,000
4	**Field Sampling Tools**	Water Sampling Containers	300	1100
		Field container	500	
		Nets	300	
5	**Personal Protective Equipment (PPE)**	Fieldworkers, including gloves, goggles, and boots.	1500	1500
6	**Literature Review**	Purchase of relevant research papers and eBooks	1,000	1,000
				Grand Total: Rs.11, 000

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Kanyakumari District, Tamil Nadu

UNDERTAKING

1. The college will provide the basic infrastructure and other required facilities to the students for timely completion of their projects.

2. The college will undertake the financial and other management responsibilities of the project also; college will be responsible in following the time lines.

3. The college will ensure that the funds provided are utilized only for the purpose provided and any remaining amount will be returned back to the University after the time of completion of the project.

4. I hereby declare that the details furnished above are true and correct.

26/03/24

Signature of Faculty Guide

Dr. J. SAHAYA RUBEN

Signature of Principal

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Kanyakumari District, Tamil Nadu

S.No.	College Code & College Name:	NMNT Id	Faculty Guide	Team Member Name	AMOUNT
279	6112 - KNOWLEDGE INSTITUTE OF TECHNOLOGY	NMNT325	Rajesh K	Kavya P, Krishva K, Sibi S	10,000
280	6177-GOVERNMENT COLLEGE OF ENGINEERING - SALEM	NMNT326	Dr.V.Satheeshkumar	Dhanush S, Dhanush S, Dhinesh V, Mohamed Fazil J	10,000
281	7327-Sri shanmugha college of engineering and technology	NMNT327	Mr. K. Mohan	Devendiran S, Kishor Kannan A, Manoranjith A, Sutharshan G	10,000
282	6117-R P Sarathy Institute of Technology	NMNT328	V Haribalaji	Dineshvarman.R, Shihabudeen.S, Silambarasan R	10,000
283	6177-GOVERNMENT COLLEGE OF ENGINEERING - SALEM	NMNT329	Dr.B.Anandavel	Dhanush N, Dineshkumar M K, Harikrishnan K, Jayachandran R	10,000
284	6201-AVS Engineering College	NMNT330	S.M. Sangeetha	Anand .A, Jeevanandam.G, Karthik.S, Selvakumar.M	10,000
285	7327-Sri shanmugha college of engineering and technology	NMNT331	Dr. G. Petchinathan	Karuppiah Sakthi C, Manikandan B, Sri Birla T, Thirunavukkarasu P	9,056
286	9633-ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT334	B.Easvara Thaya Balan	E.G.Raja Lekshmi, R.Princy, T.Ponrejitha, T.Shamini	10,000
287	9508-Government College of Engineering	NMNT335	Prof.M.Balasubramanian	Dhanush Karun R, Dhinesh Kumar M, Mohamed Fazil S, Vignesh K	9,651
288	9615-MARIA COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT336	Biju A	Emikinciya C, Rajeswari Ps	10,000
289	9618-PONJESLY COLLEGE OF ENGINEERING	NMNT337	Manchu M	Jino N, Neha S	10,000
290	9606-DMI ENGINEERING COLLEGE	NMNT338	S Reny	F. Ashish Valan, M. Krishnaveni, M. Mariasneka, V. Karthikrajan	10,000
291	9618-PONJESLY COLLEGE OF ENGINEERING	NMNT339	Raja Sugirtha	Nithajothi R, Nivashini M N, Sushmitha A S	10,000
292	9622-St.Xavier's Catholic College of Engineering	NMNT340	Ajith J. Kings	Malvin Reno A, Nithesh A, Riwan Mejo C, Shajan R	10,000
293	9628-UNIVERSITY COLLEGE OF ENGINEERING, NAGERCOIL	NMNT341	Dr.C.Mythili	A R Sushma, Chadwick J, K K Rohan, Saravanan C	10,000
294	9623 - AMRITA COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT342	Sarika A S	Abiram R, Akshaya G V, Nanthini M R	10,000
295	9622-St.Xavier's Catholic College of Engineering	NMNT343	Barona R	Naveen A S, Nithish P, Shakhan A, Shawn (	9,252

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Naan Mudhalvan Niral Thiruvizha

Declaration Form

1. Name of the College: Rohini College of Engineering and Technology
2. College code: 9633
3. Theme: Alternative Building Material
4. Problem statement:

   To reduce the temperature effect of low-cost building. The project is about a experimental investigation rein forced thermocol panel as an alternate building material. The building will be located in Monday market, Kanyakumari district the thermocol panel is a reinforced concrete sandwich panel used for numerous building application.

5. **Faculty Guide Details:**

Guide Name : Mr.B.Easvara Thayabalan, ME

Designation : Assistant professor

Mobile Number : 9489817027

Email id : balan7598686809@gmail.com

ROHINI COLLEGE OF ENGINEERING & TECHNOLOGY Palkulam Kanyakumari

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Team Leader Name	Reg No	Year	Department	Mobile No
1.E.G. Raja lekshmi	963320103074	IV year	Civil	8015567029
Team members				
1.T. Shamini	963320103090	IV year	Civil	6379727933
2.T. Pon Rejitha	963320103065	IV year	Civil	9487821485
3.R. Princy	963320103071	IV year	Civil	8838037119

6. Detailed Work Plan from 12th March-2024 to 30th May-2024

- March 1 to 31: Data collecting for a project
- April 1 to 15: Preparation and collecting of material
- April 15 to 30: Experimental work by preparing models
- May 1 to 30: Result and discussion of experiment

7. Details of Financial Assistance required

SI.NO	DISCRIPTION	AMOUNT
1	Thermocol panel	1000
2	Material for preparation of prototype	5000
3	Reinforced wire mesh	2000
4	Report preparation and printout	3000
	Total amount	11000

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UNDERTAKING

1. The college will provide the basic infrastructure and other required facilities to the students for timely completion of their projects.

2. The college will undertake the financial and other management responsibilities of the project also; college will be responsible in following the time lines.

3. The college will ensure that the funds provided are utilized only for the purpose provided and any remaining amount will be returned back to the University after the time of completion of the project.

4. I hereby declare that the details furnished above are true and correct.

Signature of Faculty Guide

Mr. B. Easvara Thayabalan, ME

Signature of Principal

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

ROHINI COLLEGE OF ENGINEERING & TECHNOLOGY
Palkulam
Kanyakumari

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Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

591.	Mr.G.Balaji Assistant Professor(SrGrade)/ Dept. of Civil Engineering M.Kumarasamy College of Engineering, Thalavapalayam Karur-639 113	Optimization of biodiesel production from food waste with an emphasis on economic and environmental analysis utilizing a biochar catalyst derived from citrus fruit peel	Dharanipriya. P Nandha Kumar. P	ECV-379	7500
592.	Dr.K.Vidhya, Professor and Head & Dr.S.Revathi Assistant Professor Dept. of Civil Engineering Mahendra Engineering College,Mallasamudram Namakkal-637 503	Development and characterization of ternary blended aerated alkali activated solid blocks	Aarthi. M Devendhiran. D Sakthivel. M	ECV-391	7500
593.	Dr.R.Mohana Professor Dept. of Civil Engineering Mepco Schlenk Engineering College, Sivakasi-626 005	IoT based smart environmental impact monitoring system for septic tank	Gowtham. A Jey Vignesh. T Muralidharan. C Anbarasan. M	ECV-401	7500
594.	Dr.J.Swaminathan Assistant Professor (SI.Gr) A.V.C. College of Engineering Mayiladuthurai-609 305	Water free toilet	Sakthi Thillai Sivagama Sundhari. P, Harish. K, Kanimozhi. R, Bharath. R	ECV-7	7500
595.	Dr.C.Chella Gifta Associate Professor Dept. of Civil Engineering National Engineering College Kovilpatti-628 503	Evaluating the durability properties of concrete prepared with recycled aggregate pretreated with thermal power plant waste	Lavanya. M Chandhru. M Kalimuthu. V Sri Dharan. R	ECV-442	7500
596.	Ms.G.Raghadharini Assistant Professor Dept. of Civil Engineering Pandian Saraswathi Yadav Engineering College Arasur, Sivagangai-630 562	Luminous concrete railway sleepers	Suman. S Sribrahma. M Surya. M	ECV-462	7500
597.	Dr.M.Arun Associate Professor Civil Engineering PSG Institute of technology and Applied Research Coimbatore-641 062	Reclamation of aggregates from discarded waste concrete	Muneeshwaran. K Anurag. A Aruna. K.K	ECV-471	7500
598.	Dr.G.Karthikeyan Asssitant Professor(SG) Dept. of Civil Engineering Ramco Institute of Technology Rajapalayam-626 117	Experimental study on the future of sustainable building using textile reinforced concrete(TRC)	Suresh Anand. J Shreehari. K	ECV-480	7500
599.	Dr.M.Tamil Selvi Professor Dept. of Civil Engineering Rohini College of Engineering & Technology, Palkulam-629 401	An experimental study on self-curing concrete containing GGBS slag using Polyethylene glycol (PEG).	Khadeeja beevi. M Karolin. P Abanthika. R Esther Rathi. S	ECV-493	7500
600.	Dr.G.E.Arunkumar Assistant Professor Dept. of Civil Engineering Shree Venkateshwara Hi-tech Engineering college Othakuthirai,Gobi Erode-638455	Concrete constructed with recycled water to experi - mental analysis of the physical behavior of polypropylene aggregate (PPA)	Sivakumar. S Rafeeda. P.K Gokul. M Gunalan. K	ECV-532	7500

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Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

884.	N.Anand Assistant Professor Dept. of EEE Roever Engineering college Perambalur-621 220	Design and modelling of hybrid DC/DC microgrid with manifold renewable energy sources	Kabilan M, Rahul R, Inbaraj G, Kathir M.	EEE-2368	7500
885.	Dr.N.Amutha Priya Associate Professor Dept. of EEE Rohini College of Engineering and Technology Kanyakumari-629 401	Analysis of cost impact on auditing electrical energy consumption at stone sculptural works industry for its optimal operation	Vinoth J, Thivakar V, Sheserao B, Jude Makvin T.	EEE-2375	7500
886.	Dr.T.Vinoth Kumar Assistant Professor Dept. of EEE RVS College of Engineering and Technology Coimbatore-641 402	MMC based SRM drives for hybrid EV with decentralized bess	Yuvaraj M, Savarivash T,	EEE-2382	7500
887.	Dr. G. Rohini Professor and Head Dept. of EEE S.A.Engineering College Tiruvallur-600 077	Cancer detection based on deep learning using embed ded systems for health care applications	Ahamed Rasool Madhina V.A,	EEE-2385	7500
888.	Dr.K.Rajkumar Associate Professor Dept. of EEE Saranathan College of Engineering Tiruchirappalli-620 012	Design and fabrication of solar powered induction type groundnut roaster for street vendors using arduino based controller	Santhoshkumar B, Bharath Kumar M, Dinesh Raja S, Jacobmartin I.	EEE-2397	7500
889.	Dr . R.Senthil Kumar Professor and HOD Dept. of EEE Saveetha engineering college Kanchipuram-602 105	Advanced smart dual charging and monitoring system of batteries	Harishwaran M.R, Josh Jacob J.,	EEE-2445	7500
890.	Mr.A.Ferminus raj Assistant Professor Dept. of EEE scad college of engineeering and technology Tirunelveli-627 414	Product sorting machine using plc	Peria Ganaga Sabapthi R, Mari Santhosh A, Muthu Kumar K, Abdul Latheef A.	EEE-2449	7500
891.	Ramakrishnan Assistant Professor Dept. of EEE Sns college of technology Coimbatore-641 035	Interleaved double dual boost converter interfaced microgrid	Tamil Priyan J, Raghu S, Keerthivasan V, Abdul Azeem AI.	EEE-2555	7500
892.	Dr.K.Radha Lakshmi Dept. of EEE Solamalai College of Engineering Madurai-625 020	Voltage multiplier based high voltage gain DC-DC converter for photovoltaic applications	Boopathi M, Deva S, Pandiaraja M, Manikandan G.K.	EEE-2568	7500
893.	Prof.P.Vivek Karthick Assistant Professor Dept. of ECE Sona College of Technology Salem-636 005	Fpga implementation of reconfigurable address generation architectures for multi-standard interleaver	Vaishali R, Poorna Vaishnavi A D,	EEE-2576	7500
894.	Dr B Prakash Ayyappan Assistant Professor Dept. of EEE Sri Bharathi Engineering College For Women, Kaikkurichi, Pudukkottai-622 303	Solar powered hybrid ai technology based fire fighting drone	Kaviya R, Ramadevi S, Kopperundevi S,	EEE-2618	7500

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Kanyakumari District, Tamil Nadu

S.No.	College Code & College Name:	NMNT Id	Faculty Guide	Team Member Name	AMOUNT
690	7322-NANDHA ENGINEERING COLLEGE	NMNT811	Dr.P.Komalabharathi	Fiza Tabassum A, Gobinath M, Kowtheesh S	10,000
691	7106-CSI COLLEGE OF ENGINEERING	NMNT812	Mrs Aruna C	Ramprakash V, Saravanan S	10,000
692	6130-VIVEKANANDHA COLLEGE OF TECHNOLOGY FOR WOMEN	NMNT813	K.Soundararajan	Sakthi Pm, Sarumathe J, Sneha R, Varsha P	10,000
693	7316-K S R INSTITUTE FOR ENGINEERING AND TECHNOLOGY	NMNT814	Dr. P. Kanakarajan	A.Wilfred, R.Gurumoorthi, S.Subash	10,000
694	7377-K.S.RANGASAMY COLLEGE OF TECHNOLOGY	NMNT816	Mr.M.Sanjay	Sanjay S, Sridhar A, Stedthawfiq I	10,000
695	6112 - KNOWLEDGE INSTITUTE OF TECHNOLOGY	NMNT818	J.Prakash	Fredrick Jayan A, Kavinraaj S, Krishna Kb, Praveen P	10,000
696	5108-GANADIPATHY TULSI'S JAIN ENGINEERING COLLEGE	NMNT819	Manimegalai. A	Magesh R, Naveen Raj K P, Pradeep R	10,000
697	9633-ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT820	Dr.Jasmine J.C Sheeja	Aarthi.T, Abisha.S, Amirtha.S	10,000
698	9606-DMI ENGINEERING COLLEGE	NMNT821	J.Merin Joshiba	Dershiya V, Dharshini J, Kumaresh M, Varsha R S	10,000
699	9512-J P COLLEGE OF ENGINEERING	NMNT822	S.Jai Metilda	Muthuraj S, Siva Vignesh K, Suriya Perumal M, Vijay Ganesh S	10,000
700	9507-FRANCIS XAVIER ENGINEERING COLLEGE	NMNT823	Dr R Rajagopal	Aswin T, Drugalakshmi A, Madasamy P, Mathumitha A	10,000
701	9213-PSNA COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT825	Mariammal G	Logeshwaran R P, Madhavan J, Nisanth N, Ram Kishore K	10,000
702	9131 - VELAMMAL COLLEGE OF ENGINEERING AND TECHNOLOGY	NMNT826	Dr.J.V.Anchitaalagammai	Dharshini.R, Gowshika. B, Janani.R, Shahin Wafeqa.P	10,000
703	9177-Thiagarajar College of Engineering, Madurai	NMNT827	Dr G Kumaraguruparan	Balachandar P, Deepihashini K	9,146
704	9115 - MOHAMED SATHAK ENGINEERING COLLEGE	NMNT828	Dr. M.Mohamed Sithik	Bharathi Thasan U, Madhavan S, Santhosh K	10,000
705	9115 - MOHAMED SATHAK ENGINEERING COLLEGE	NMNT829	Mr . M.Vinothkumar	Ahamed Aadhil, Harisangar	10,000
706	9115 - MOHAMED SATHAK ENGINEERING COLLEGE	NMNT830	Ms.M Rajarajeswari	Afrosesulthana A, Khalifa Sathakkathullah, Muhammed Javad Np	10,000
707	9106-KLN College of engineering	NMNT831	Dr.S.Subha	epika R, Haripriyaa M,	5,208

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Anjugramam Kanyakumari Main Road,
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GSTIN : 33CKGPK5591Q1ZG

TECHNOLOGIES

abt@abtechnologies.in
abtechchennai@gmail.com
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9840511458
14, First & Second Floor, Prajam Complex,
S.T.Hindu College Road,
Chettikulam Jn., Nagercoil,
Kanyakumari District,
Tamilnadu - 629002.

To

The Principal,

Rohini College of Engineering and Technology,

Palkulam, Kanyakumari-629401.

PROJECT SPONSORSHIIP LETTER

We, AB Technologies appreciates your interest in securing funding support for your project titled “IOT based sand quality testing robot " by the students of ECE department and are pleased to announce that your project has been selected from many of the projects submission to our organisation with reference sent by you AB/ST/2023/207, for receiving the sponsorship to the tune of Rs.21,000 which will be disbursed to you on 11/01/2024.

We feel that your proposal fits best with our requirement and is fulfilling our expectations. We believe that this proposal can do justice to what we want hence we wish to sponsor the project. We agree to the terms and conditions stated in proposal. The project must be completed within the span of 5 months. Monthly review will be conducted by our organisation for progress identification.

Thank you for engaging with us.

Yours Sincerely,

AB TECHNOLOGIES Nagercoil 629002

Manager,

AB Technologies.

Branch Office:
103-M, Barani Nagar,
Opposite To St. Xaviers Matriculation School,
Vannarpettai,
Tirunelveli- 627003.

No. 336, First floor,
Mudichur Road,
Tambaram West,
Chennai - 600 045.

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vaniyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

GSTIN : 33CKGPK5591Q1ZG

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abt@abtechnologies.in
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9840511458
14, First & Second Floor, Prajam Complex,
S.T.Hindu College Road,
Chettikulam Jn., Nagercoil,
Kanyakumari District,
Tamilnadu - 629002.

ENCLOSURES: SPONSORSHIP DETAILS

SPONSORSHIP DETAILS

PROJECT REF.NO	**AB/ST/2023/207**
PROJECT TITLE	**IOT based sand quality testing robot**

GUIDED BY	**Ms.NISHA G KRISHNAN**

SL.NO	REG.NO	NAME
1	963320106043	DHIVYA S
2	963320106048	GEERTHANA H G
3	963320106051	HARSHINI Y

Yours Sincerely,

AB TECHNOLOGIES Nagercoil 629002

Manager,

AB Technologies.

Branch Office:
103-M, Barani Nagar,
Opposite To St. Xaviers Matriculation School,
Vannarpettai,
Tirunelveli- 627003.

No. 336, First floor,
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Anjugramam Kanyakumari Main Road,
Palkulam, Vaniyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

GSTIN : 33CKGPK5591Q1ZG

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14, First & Second Floor, Prajam Complex,
S.T.Hindu College Road,
Chettikulam Jn., Nagercoil,
Kanyakumari District,
Tamilnadu - 629002.

To

The Principal,

Rohini College of Engineering and Technology,

Palkulam, Kanyakumari-629401.

PROJECT SPONSORSHIIP LETTER

We, AB Technologies appreciates your interest in securing funding support for your project titled “Smart shopping cart with automatic billing system " by the students of ECE department and are pleased to announce that your project has been selected from many of the projects submission to our organisation with reference sent by you AB/ST/2023/207, for receiving the sponsorship to the tune of Rs.21,000 which will be disbursed to you on 11/01/2024.

We feel that your proposal fits best with our requirement and is fulfilling our expectations. We believe that this proposal can do justice to what we want hence we wish to sponsor the project. We agree to the terms and conditions stated in proposal. The project must be completed within the span of 5 months. Monthly review will be conducted by our organisation for progress identification.

Thank you for engaging with us.

Yours Sincerely,

AB TECHNOLOGIES Nagercoil 629002

Manager,

AB Technologies.

Branch Office:
103-M, Barani Nagar,
Opposite To St. Xaviers Matriculation School,
Vannarpettai,
Tirunelveli- 627003.

No. 336, First floor,
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Chennai - 600 045.

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Rohini College of Engineering & Technology
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Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

GSTIN : 33CKGPK5591Q1ZG

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Chettikulam Jn., Nagercoil,
Kanyakumari District,
Tamilnadu - 629002.

ENCLOSURES: SPONSORSHIP DETAILS

SPONSORSHIP DETAILS

PROJECT REF.NO	**AB/ST/2023/207**
PROJECT TITLE	**Smart shopping cart with automatic billing system**

GUIDED BY	**Dr.JACKSON DANIEL**

SL.NO	REG.NO	NAME
1	963320106009	ABISHEK R
2	963320106301	ABIMANYU R
3	963320106302	ABINESH R

Yours Sincerely,

AB TECHNOLOGIES Nagercoil 629002

Manager,

AB Technologies.

Branch Office:
103-M, Barani Nagar,
Opposite To St. Xaviers Matriculation School,
Vannarpettai,
Tirunelveli- 627003.

No. 336, First floor,
Mudichur Road,
Tambaram West,
Chennai - 600 045.

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

Aspro Technologies
Solutions WithIN

Aspro

TO:

The Principal,
Rohini College of Engineering and Technology,
Palkulam.

PROJECT SPONSORSHIP LETTER

We, Aspro Technologies, appreciate your interest in securing funding for your project titled, **"Smart Automative security control with Accident Alert system"** by the candidates

Sl. no	Name	Dept	Batch
1)	AJITH KUMAR M	ECE	2020-2024
2)	ANANTHAN A PADMANABHAN	ECE	2020-2024
3)	HENTRY JOSEPH P	ECE	2020-2024
4)	KALYAN A	ECE	2020-2024

We are pleased to announce that your project has been selected from many of the projects submitted to our organization with reference sent by you BI/RCET/2023/247, for receiving the sponsorship fund to the tune of Rs. 24000, which will be disbursed to you on 12-01-2024. The project must be completed within a span of 6 months. Monthly review meetings for progress identification will be conducted in our organization and you must present your project progress to the panel.

Project report submission is a must during the deployment of the project in our office.

Yours Sincerely,
MANAGER
Aspro Technologies

Aspro Technologies ASPRO

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

Sky Valley
SOLUTIONS

TO:

The Principal,
Rohini College of Engineering and Technology,
Palkulam.

PROJECT SPONSORSHIP LETTER

We, Sky Valley Solutions, appreciate your interest in securing funding for your project titled, **"Renewable energy technologies to support rural area electricification and reduce energy consumption"** by the candidates

Sl. no	Name	Dept	Batch
1)	ABISHEK M	ECE	2020-2024
2)	AGNEL GIFSON S	ECE	2020-2024
3)	ANANTH A	ECE	2020-2024

We are pleased to announce that your project has been selected from many of the projects submitted to our organization with reference sent by you B1/RCET/2023/247, for receiving the sponsorship fund to the tune of Rs. 23000, which will be disbursed to you on 22-01-2024. The project must be completed within a span of 6 months. Monthly review meetings for progress identification will be conducted in our organization and you must present your project progress to the panel.

Project report submission is a must during the deployment of the project in our office.

With Regards,
Sky Valley Solutions
Nagercoil –629502.

SKY VALLEY SOLUTIONS
3-48, BHAKTHANKADU
ERUMBUKADU P.O.
K.K. DIST.- 629 004

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

Office: No.11/25-1, Ganapathipuram (po), Kanyakumari, Tam
Ph No: 04652-298955, Email: info@chasseurcyber

Sky Valley
SOLUTIONS

Office: No. 11/25-1, Ganapathipuram (po), Kanyakumari, Tamil Nadu, India, 629502.
Ph No: 04652-298955, **Email:** info@chasecurcybersolutions.com

Aspro Technologies
Solutions WithIN

Aspro

TO:

The Principal,
Rohini College of Engineering and Technology,
Palkulam.

PROJECT SPONSORSHIP LETTER

We, Aspro Technologies, appreciate your interest in securing funding for your project titled, **"**AI Based Advanced Home Automation System.**"** by the candidates

Sl. no	Name	Dept	Batch
1)	Azeer Lal I	ECE	2020-2024
2)	Godwin B	ECE	2020-2024
3)	Kabilesh CM	ECE	2020-2024
4)	Anton nekesh	ECE	2020-2024

We are pleased to announce that your project has been selected from many of the projects submitted to our organization with reference sent by you BI/RCET/2023/247, for receiving the sponsorship fund to the tune of Rs. 24000, which will be disbursed to you on 12-01-2024. The project must be completed within a span of 6 months. Monthly review meetings for progress identification will be conducted in our organization and you must present your project progress to the panel.

Project report submission is a must during the deployment of the project in our office.

Yours Sincerely,
MANAGER
Aspro Technologies

Aspro Technologies

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vaniyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

FEEDBACK INFRA
Making Infrastructure Happen

Feedback Infra Private Limited
Formerly Feedback Infrastructure Services Private Limited)
Transportation Division - Rail & Metro
Project Office- Major Bridges, Road,Railway
Feedar Road (near to Palay railway station)
Tirunelveli 627002.
Email: feedback.tvnl@gmail.com

Lr No: FB/MEJ-NCJ/MB/TEN/685 Date: 10.11.2023

To,
The Principal,
Rohini College of Engineering and Technology,
Near Anjugramam JN, Kaniyakumari Main Road,
Palkulam, Kaniyakumari

Sub: Provision of doubling of track between Vanchi Maniyachi and Nagercoil (Via) Tirunelveli Construction of Major bridges, Precast RCC Box, Mechanical facilities and General Electrification works in Madurai & Thiruvananthapuram Divisions of Southern Railway – **Rebound Hammer Test/Schmidt Hammer Test – reg.**

Ref: 1. Lr. BSCPL-PKM-BECC/RVNL/672/ 2023 Dated 10.11.2023

We request you to kindly conduct Rebound Hammer Test / NDT / SCHIMDT HAMMER in Bridge No. 04 (Thamirabarani River) for sub structure and super structure. This Hammer Instrument should have digital recording arrangement and should conform IS: 13311 (Part 2) requirements.

Necessary testing charges will be borne by contractor **M/S.BSCPL-PKM-BECC (JV).**

Thanking You
With Regards,
For Feedback infra/PMC

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

R Vasudev;
Project Manager (In-Charge),
MEJ-NCJ Doubling Project,
Tirunelveli

Enclosure: Above referred letter

CC:
i) PM/BSCPL-PKM-BECC (JV)/ TEN – for information please

Name of the Faculty :	Mr.N. Suthan Kumar, Assistant Professor Department of Civil Engineering
Students Involved in the Project	
963320103016	ARICKIA JEYA SURYA J
963320103018	ASHIL JERLIN C
963320103019	ASWIN R
963320103025	DRAVID R
963320103026	DURAI RAJ P
963320103027	EDWIN SAM
963320103077	REJIN R
963320103123	VINOTH KUMAR R
963320103310	SUBASH S

NDT TEST REPORT

Estimating Concrete Strength is a crucial aspect of construction, providing insights into the material's durability and structural integrity. The rebound hammer test is a Non-destructive Method widely used to estimate concrete strength. The test involves striking the concrete surface with a rebound hammer and measuring the rebound index

Schmidt's Hammer Test is based on the principle that the "rebound of a spring-loaded mass depends on the hardness of the concrete mass on which the mass strikes". This rebound distance of the rebounded Plunger mass is noted down in the graduated scale as the Rebound number/rebound index. The graph in the body of the hammer is used to find out the respective compressive strength. The concrete with low energy and low stiffness absorbs more energy from the plunger and produces a low rebound value on the scale. This is crucial in Calculating Concrete Strength in the Rebound Hammer Test.

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Kanyakumari District, Tamil Nadu

Spot-I- PSC Girder structure (Grade M_{50}) - Obtained Rebound Hammer Readings of Compressive Strength (f_{ck}) in N/mm²											
Sl.No	Location No	Rebound No PSC1	f_{ck} N/mm²	Rebound No PSC2	f_{ck} N/mm²	Rebound No PSC3	f_{ck} N/mm²	Rebound No PSC4	f_{ck} N/mm²	Rebound No PSC5	f_{ck} N/mm²
1	Span 1	46	52	48	56	47	54	48	56	48	56
2	Span 2	46	52	50	62	49	58	46	52	50	62
3	Span 3	48	56	50	62	50	62	50	62	45	50
4	Span 4	50	62	49	58	52	67	45	50	46	52
5	Span 5	48	56	50	62	46	52	46	52	52	67
6	Span 6	50	62	46	52	50	62	52	67	50	62
7	Span 7	46	52	46	52	47	54	50	62	46	52
8	Span 8	46	52	46	52	48	56	50	62	48	56
9	Span 9	48	56	48	56	46	52	48	56	46	52
10	Span 10	50	62	50	62	48	56	52	67	52	67
11	Span 11	50	62	46	52	50	62	46	52	47	54
12	Span 12	46	52	46	52	47	54	45	50	46	52
13	Span 13	48	56	45	50	45	50	48	56	50	62
14	Span 14	48	56	47	54	46	52	45	50	50	62
15	Span 15	44	47	46	52	46	52	48	56	45	50
16	Span 16	48	56	48	56	45	50	45	50	46	52
17	Span 17	48	56	47	54	48	56	47	54	45	50
Average Compressive strength (f_{ck})in N/mm²		47.6	55.7	47.5	55.5	47.6	55.8	47.7	56.1	47.7	56.4

The Average Compressive strength (f_{ck}) of PSC girder structure is 55.90 N/mm²± 25%

Spot II- Ballast Retaining structure (Grade M_{35}) Obtained Rebound Hammer Readings of Compressive Strength (f_{ck}) in N/mm²							
Sl.No	Location No (Retaining structure)	Rebound No R1	f_{ck} N/mm²	Rebound No R2	f_{ck} N/mm²	Rebound No R3	f_{ck} N/mm²
1	Span 1	48	52	50	56	49	54
2	Span 2	50	56	49	54	48	52
3	Span 3	47	49	49	54	48	52
4	Span 4	48	52	47	49	47	49
5	Span 5	45	45	42	39	45	45
6	Span 6	43	41	46	47	48	52
7	Span 7	43	41	49	54	47	49
8	Span 8	50	56	48	52	46	47
9	Span 9	49	54	48	52	45	45
10	Span 10	47	49	48	52	47	49
11	Span 11	48	52	47	49	43	41
12	Span 12	50	56	47	49	46	47
13	Span 13	49	54	49	54	47	49
14	Span 14	48	52	47	59	49	54
15	Span 15	48	52	50	56	47	49
16	Span 16	48	52	47	49	48	52
17	Span 17	49	54	47	49	49	54
Average Compressive strength (f_{ck})in N/mm²		47.6	51.0	47.6	51.4	46.8	49.4

The Average Compressive strength (f_{ck}) of ballast retaining structure is 50.60 N/mm²± 25%

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Variyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

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Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

FEEDBACK INFRA
Making Infrastructure Happen

Feedback Infra Private Limited
Formerly Feedback Infrastructure Services Private Limited)
Transportation Division - Rail & Metro
Project Office- Major Bridges, Road,Railway
Feedar Road (near to Palay railway station)
Tirunelveli 627002.
Email: feedback.tvnl@gmail.com

Lr No: FB/MEJ-NCJ/MB/TEN/688 Date: **14-12-2023**

To,
The Principal,
Rohini College of Engineering and Technology,
Near Anjugramam JN, Kaniyakumari Main Road,
Palkulam, Kaniyakumari

Sub: Sanction of Fund for your project – NDT TEST – railway project –Reg

As we required **NDT TEST – railway project**. The students (ARICKIA JEYA SURYA J, ASHIL JERLIN C, ASWIN R, DRAVID R, DURAI RAJ P, EDWIN SAM, REJIN R, VINOTH KUMAR R, SUBASH S) from civil department Rohini college of Engineering and Technology along with the faculty completed the project within the time. We are happy to inform that PKM has sanctioned a grant of Rs 1,02,000/- (One lakh two thousand only) for the above project and the grant will be released immediately

Thanking You
With Regards,
For Feedback infra/PMC

R Vasudev,
Project Manager (In- Charge),
MEJ-NCJ Doubling Project,
Tirunelveli

Enclosure: Above referred letter

CC:
i) PM/BSCPL-PKM-BECC (JV)/ TEN – for information please

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vaniyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

Project Outcome

The outcome of a rebound hammer test is a value that indicates the compressive strength of concrete. A higher rebound value indicates a stronger, more durable concrete, while a lower value may indicate issues with the concrete's quality or strength.

However, several factors can affect the outcome of a rebound hammer test, including:

Surface hardness: The hardness of the concrete surface being tested is a critical factor.

Moisture content: The moisture content of the concrete can affect the outcome.

Concrete mix proportions: The proportions of the concrete mix can affect the outcome.

Curing conditions: The conditions in which the concrete was cured can affect the outcome.

Surface roughness: The roughness of the concrete surface can affect the outcome.

Age of concrete: The age of the concrete can affect the outcome.

Testing equipment calibration: The calibration of the testing equipment can affect the outcome.

Operator technique and skill: The technique and skill of the operator can affect the outcome.

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Kanyakumari District, Tamil Nadu

Rohini College of Engineering and Technology
Palkulam, Anjugramam,
Variyoor Post-629401, Kanyakumari District

ENTUDIO PRIVATE LIMITED-ROHINI HACKATHON

Ledger Account

1-Aug-23 to 31-Aug-23

Date		Particulars	Vch Type	Vch No	Debit	Credit
7.08.2023	By	[Q] Bank A/c – ICICI – RCET 721001001562	Bank Receipt	RB-1625		100000.00

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Variyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

Rohini College of Engineering and Technology
Palkulam, Anjugramam,
Variyoor Post-629401, Kanyakumari District

KUMARI HACKATHON

Ledger Account

1-Mar-24 to 31-Mar-24

Date		Particulars	Vch Type	Vch No	Debit	Credit
8.3.2024	By	[Q] Bank A/c – ICICI – RCET 721001001562	Bank Receipt	RB-1906		10000.00

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Variyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

Rohini College of Engineering and Technology
Palkulam, Anjugramam,
Variyoor Post - 629401, Kanyakumari District

BANK RECEIPT

No. : **RB-763**

Dated : **13-Jun-24**

Through : [Q] Bank A/c - TMB - 018 518 888 888 888 - RCET

Particulars	Amount
Account :	
NATIONAL TCEHNOLOGY DAY (TAMILNADU STATE COUNCIL HIGHER EDUCATION)	**15,000.00**

Rohini College of Engineering & Technology * Palkulam Kanyakumari

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Variyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

On Account of :

NEFT/MEMBER SECRETARY T/IDIBH24165410814

Amount (in words) :

INR Fifteen Thousand Only

Nilavith

₹ 15,000.00

Rohini College of Engineering and Technology
Palkulam, Anjugramam,
Variyoor Post - 629401, Kanyakumari District

SIC (SCHOOL INNOVATION CONTEST)

Ledger Account

1-Mar-24 to 31-Mar-24

Date		Particulars	Vch Type	Vch No.	Debit	Credit
11-Mar-24	By	[Q] Bank A/c - TMB - 018 518 888 888 888 - RCET	Bank Receipt	RB-1935		54,000.00
16-Mar-24	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1409	5,000.00	
	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1410	5,000.00	
	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1411	5,000.00	
	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1412	5,000.00	
	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1413	5,000.00	
	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1414	5,000.00	
	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1415	5,000.00	
	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1416	3,000.00	
	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1417	3,000.00	
	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1418	2,000.00	
	To	[Q] Bank A/c - ICICI - RCET 721 001 001 562	Payment Bank	PB-1419	1,000.00	
					44,000.00	54,000.00
	To	Closing Balance			10,000.00	
					54,000.00	**54,000.00**

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Variyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

GSTIN : 33CKGPK5591Q1ZG

TECHNOLOGIES

abt@abtechnologies.in
abtechchennai@gmail.com
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9840511458
14, First & Second Floor, Prajam Complex,
S.T.Hindu College Road,
Chettikulam Jn., Nagercoil,
Kanyakumari District,
Tamilnadu - 629002.

To

The Principal,

Rohini College of Engineering and Technology,

Palkulam, Kanyakumari-629401.

PROJECT SPONSORSHIIP LETTER

We, AB Technologies appreciates your interest in securing funding support for your project titled “Intelligent Crop Recommendation System using Random Forest Classifier" by the students of CSE department and are pleased to announce that your project has been selected from many of the projects submission to our organisation with reference sent by you AB/ST/2023/208, for receiving the sponsorship to the tune of Rs.17,000 which will be disbursed to you on 11/02/2024.

We feel that your proposal fits best with our requirement and is fulfilling our expectations. We believe that this proposal can do justice to what we want hence we wish to sponsor the project. We agree to the terms and conditions stated in proposal. The project must be completed within the span of 5 months. Monthly review will be conducted by our organisation for progress identification.

Thank you for engaging with us.

Yours Sincerely,

AB TECHNOLOGIES Nagercoil 629002

Manager,

AB Technologies.

Branch Office:
103-M, Barani Nagar,
Opposite To St. Xaviers Matriculation School,
Vannarpettai,
Tirunelveli- 627003.

No. 336, First floor,
Mudichur Road,
Tambaram West,
Chennai - 600 045.

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vaniyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

GSTIN : 33CKGPK5591Q1ZG

TECHNOLOGIES

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www.abtechnologies.in
9840511458
14, First & Second Floor, Prajam Complex,
S.T.Hindu College Road,
Chettikulam Jn., Nagercoil,
Kanyakumari District,
Tamilnadu - 629002.

ENCLOSURES: SPONSORSHIP DETAILS

SPONSORSHIP DETAILS

PROJECT REF.NO	**AB/ST/2023/208**
PROJECT TITLE	**Intelligent Crop Recommendation System using Random Forest Classifier**

GUIDED BY	**DR.I.MICHAEL REVINA**

SL.NO	REG.NO	NAME
1	963320104015	ATSHAYA.K
2	963320104702	LINSILA REGIN.R
3	963320104304	SUREKHA.S

Yours Sincerely,

AB TECHNOLOGIES Nagercoil 629002

Manager,

AB Technologies.

Branch Office:
103-M, Barani Nagar,
Opposite To St. Xaviers Matriculation School,
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Palkulam, Vaniyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

INTELLIGENT CROP RECOMMENDATION USING MACHINE LEARNING

A PROJECT REPORT

Submitted by

ATSHAYA.K **(963320104015)**

LINSILA REGIN.R **(963320104702)**

SUREKHA.S **(963320104304)**

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

ROHINI COLLEGE OF ENGINEERING & TECHNOLOGY

PALKULAM, KANYAKUMARI

ANNA UNIVERSITY: CHENNAI 600 025

MAY 2024

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Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"INTELLIGENT CROP RECOMMENDATION USING MACHINE LEARNING "**is the bonafide work of **"SUREKHA S – 963320104304, LINSILA REGIN R – 963320104702, ATSHAYA K - 963320104015 "** who carried out the project under my Supervision.

SIGNATURE

Mrs.R.Sahila Devi ,

HEAD OF THE DEPARTMENT

Assistant Professor & Head

Department of Computer Science and Engineering

Rohini College of Engineering & Technology

Palkulam, Variyoor(Post)

Kanyakumari - 629 401.

SIGNATURE

Dr.I.Michel Revina,M.E,Ph.D

SUPERVISOR

Assistant Professor

Department of Computer science and Engineering

Rohini College of Engineering & Technology

Palkulam, Variyoor (Post)

Kanyakumari - 629 401.

University Practical Viva-Voce Examination held on ..08.05.2024..... at Rohini College of Engineering & Technology, Palkulam.

8/5/24

INTERNAL EXAMINER

8/5/24

EXTERNAL EXAMINER

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Variyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

ABSTRACT

A vast fraction of the population of India considers agriculture as its primary occupation. The production of crops plays an important role in our country.Bad quality crop production is often due to either excessive use of fertilizer or using not enough fertilizer. The proposed system of ML is enabled for soil testing using the sensors, is based on measuring and observing soil parameters.This system lowers the probability of soil degradation and helps maintain crop health.Machine Learning Techniques develops a well-defined model with the data and helps us to attain predictions.Agricultural issues like crop prediction, rotation, water requirement, fertilizer requirement and protection can be solved. Due to the variable climatic factors of the environment, there is a necessity to have a efficient technique to facilitate the crop cultivation and to lend a hand to the farmers in their production and management.This may help upcoming agriculturalists to have a better agriculture. This may help upcoming agriculturalists to have a better agriculture. A system of recommendations can be provided to a farmer to help them in crop cultivation with the help of data mining. Agricultural issues like crop prediction, rotation, water requirement, fertilizer requirement and protection can be solved. Due to the variable climatic factors of the environment, there is a necessity to have a efficient technique to facilitate the crop cultivation and to lend a hand to the farmers in their production and management.To implement such an approach, crops are recommended based on its climatic factors and quantity The data sensed by the sensors is stored on the database and analyzed learning algorithms like XGBoost.

CHAPTER 8

CONCLUSION AND FUTURE ENHANCEMENT

.1 CONCLUSION

In this work have effectively proposed and implemented an intelligent rop recommendation system, which can be easily used by farmers all over ndia. This system would help the farmers in making an informed decision about vhich crop to grow depending on some parameters like Nitrogen, Phosphorous, 'ottasium, PH Value, Humidity, Temperature, and Rainfall. By using this esearch we can increase productivity of the country and produce profit out of such a technique. In this manner the farmer's can plant the right crop increasing his yield and also increasing the overall profitability of the country. This investigation has expressed the recommendation of various crops of India using machine learning algorithms like XGBoost. The support vector machine is provide best accuracy result.

8.2 FUTURE ENHANCEMENT

The main future work's aim is to improved dataset with larger number of attributes. Need to build a model, which can classify between healthy and diseased crop leaves and also if the crop has any disease, predict which disease is it.

GSTIN : 33CKGPK5591Q1ZG

TECHNOLOGIES

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abtechchennai@gmail.com
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14, First & Second Floor, Prajam Complex,
S.T.Hindu College Road,
Chettikulam Jn., Nagercoil,
Kanyakumari District,
Tamilnadu - 629002.

To

The Principal,

Rohini College of Engineering and Technology,

Palkulam, Kanyakumari-629401.

PROJECT SPONSORSHIIP LETTER

We, AB Technologies appreciates your interest in securing funding support for your project titled “Plant Leaf disease detection using Machine Learning " by the students of CSE department and are pleased to announce that your project has been selected from many of the projects submission to our organisation with reference sent by you AB/ST/2023/207, for receiving the sponsorship to the tune of Rs.21,000 which will be disbursed to you on 11/02/2024.

We feel that your proposal fits best with our requirement and is fulfilling our expectations. We believe that this proposal can do justice to what we want hence we wish to sponsor the project. We agree to the terms and conditions stated in proposal. The project must be completed within the span of 5 months. Monthly review will be conducted by our organisation for progress identification.

Thank you for engaging with us.

Yours Sincerely,

AB TECHNOLOGIES Nagercoil 629002

Manager,

AB Technologies.

Branch Office:
103-M, Barani Nagar,
Opposite To St. Xaviers Matriculation School,
Vannarpettai,
Tirunelveli- 627003.

No. 336, First floor,
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Tambaram West,
Chennai - 600 045.

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
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Kanyakumari District, Tamil Nadu

GSTIN : 33CKGPK5591Q1ZG

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S.T.Hindu College Road,
Chettikulam Jn., Nagercoil,
Kanyakumari District,
Tamilnadu - 629002.

ENCLOSURES: SPONSORSHIP DETAILS

SPONSORSHIP DETAILS

PROJECT REF.NO	**AB/ST/2023/207**
PROJECT TITLE	**Plant leaf disease detection using Machine Learning**

GUIDED BY	**MRS.R.SAHILA DEVI**

SL.NO	REG.NO	NAME
1	963320104027	JANICE GRESSIDA J
2	963320104032	LAVANYA E
3	963320104003	AJINSLIN J

Yours Sincerely,

AB TECHNOLOGIES Nagercoil 629002

Manager,

AB Technologies.

Branch Office:
103-M, Barani Nagar,
Opposite To St. Xaviers Matriculation School,
Vannarpettai,
Tirunelveli- 627003.

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Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

ENHANCED CROP MANAGEMENT AND DISEASE DETECTION USING DEEP LEARNING

A PROJECT REPORT

Submitted by

AJINSLIN.J	**(963320104003)**
JANICE GRESSIDA.J	**(963320104027)**
LAVANYA.E	**(963320104032)**

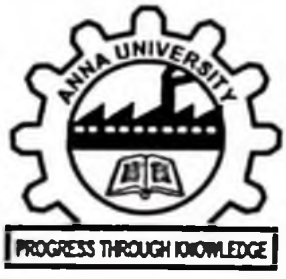
In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING



ROHINI COLLEGE OF ENGINEERING & TECHNOLOGY

PALKULAM, KANYAKUMARI

ANNA UNIVERSITY: CHENNAI 600 025

MAY 2024

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

ENHANCED CROP MANAGEMENT AND DISEASE DETECTION USING DEEP LEARNING

A PROJECT REPORT

Submitted by

AJINSLIN.J	**(963320104003)**
JANICE GRESSIDA.J	**(963320104027)**
LAVANYA.E	**(963320104032)**

In partial fulfillment for the award of the degree

of

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ROHINI COLLEGE OF ENGINEERING & TECHNOLOGY

PALKULAM, KANYAKUMARI

ANNA UNIVERSITY: CHENNAI 600 025

MAY 2024

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vaniyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

ABSTRACT

Every other field has got some benefit from new technologies as compared to ıe agricultural field. According to past studies, 42% of agricultural production is in ɔss, and that too only because of the increasing rate of loss due to plant leaf liseases. To overcome this major issue, this project features advanced leaf disease letection for quick identification and offers detailed descriptions and remedies.

This plant leaf disease detection technique can be applied to detect a disease rom the input images. This process involved steps like image pre-processing, data oading, and training the dataset. Additionally, it leverages soil parameters to ;uggest crops for optimal yield and it also provides personalized fertilizer ;uggestions based on the data to optimize nutrient usage. The user-friendly interface ıims to empower farmers for sustainable and efficient agricultural practices.

PRINCIPAL
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Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

8.1 CONCLUSION

In conclusion, the development of a comprehensive website for plant health management represents a significant step towards leveraging technology to enhance agricultural productivity and sustainability. By integrating modules for plant leaf disease detection, crop recommendation, and fertilizer suggestion, the website offers a holistic approach to addressing the complex challenges faced by farmers and agricultural stakeholders.

Through the utilization of machine learning algorithms such as ResNet for disease detection and Decision Tree, Naive Bayes, SVM, Logistic Regression, Random Forest, and XGBoost for crop recommendation and fertilizer suggestion, the website provides accurate and tailored recommendations based on environmental factors and crop-specific requirements. This empowers users to make informed decisions about disease management, crop selection, and nutrient optimization, ultimately leading to improved crop yields, resource efficiency, and profitability.

Furthermore, the website's user-friendly interface and interactive features facilitate seamless navigation and engagement, making it accessible to a wide range of users, including farmers, agricultural extension workers, researchers, and policymakers. By harnessing the power of technology and data-driven insights, the website contributes to the advancement of sustainable agriculture practices and food security.

In summary, the development of this website represents a valuable tool for enhancing plant health management, optimizing crop production, and promoting sustainable agricultural development. Through the int learning algorithms and user-friendly features, the

Aspro Technologies
Solutions WithIN

Aspro

TO:

The Principal,
Rohini College of Engineering and Technology,
Palkulam.

PROJECT SPONSORSHIP LETTER

We, Aspro Technologies, appreciate your interest in securing funding for your project titled, **"Social Media Sentiment Analysis using Advanced Particle Swarm Optimization"** by the candidates

Sl. no	Name	Dept	Batch
1)	Ajethra.A	CSE	2020-2024
2)	Nithya.A	CSE	2020-2024
3)	Seetha.M	CSE	2020-2024

We are pleased to announce that your project has been selected from many of the projects submitted to our organization with reference sent by you B2/RCET/2023/247, for receiving the sponsorship fund to the tune of Rs. 21000, which will be disbursed to you on 22-02-2023. The project must be completed within a span of 6 months. Monthly review meetings for progress identification will be conducted in our organization and you must present your project progress to the panel.

Project report submission is a must during the deployment of the project in our office.

Yours Sincerely,
MANAGER
Aspro Technologies

Aspro Technologies
ASPRO

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vaniyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

SOCIAL MEDIA SENTIMENT ANALYSIS USING ADVANCED PARTICLE SWARM OPTIMIZATION

A PROJECT REPORT

Submitted by

AJETHRA A **(963320104002)**

NITHYA A **(963320104041)**

SEETHA M **(963320104303)**

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

ROHINI COLLEGE OF ENGINEERING & TECHNOLOGY

PALKULAM, KANYAKUMARI

ANNA UNIVERSITY: CHENNAI 600 025

MAY 2024

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report "**SOCIAL MEDIA SENTIMENT ANALYSIS USING ADVANCED PARTICLE SWARM OPTIMIZATION**" is the bonafide work of "**AJETHRA A - 963320104002, NITHYA A - 963320104041, SEETHA M - 963320104303 "** who carried out the project work under my supervision.

SIGNATURE

Mrs.R.Sahila Devi ,M.Tech

HEAD OF THE DEPARTMENT

Assistant Professor & Head

Department of Computer Science and Engineering

Rohini College of Engineering & Technology

Palkulam, Variyoor(Post)

Kanyakumari - 629 401.

8/5/24

SIGNATURE

Dr.I.Vallirathi,Ph.D

SUPERVISOR

Associate Professor

Department of Computer Science and Engineering

Rohini College of Engineering & Technology

Palkulam, Variyoor (Post)

Kanyakumari - 629 401.

University Practical Viva-Voce Examination held on ---08.05.2024---

at Rohini College of Engineering & Technology, Palkulam.

8/5/24

INTERNAL EXAMINER

8/5/2024

EXTERNAL EX

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
Palkulam, Variyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

ABSTRACT

In the context of the increasingly interconnected world shaped by microblogging services like Twitter, sentiment analysis holds vital significance. The sway of others' sentiments and opinions over our perceptions is now undeniable, transcending individual viewpoints through which investigation extends the boundaries of previous endeavours in Twitter sentiment analysis, adopting a strategic utilization of Distant Supervision. However, the existing method deals with challenges in analyzing the immense tweet volume due to computational limitations. To overcome this challenge, novel strategies are led in, aimed at expediting the sentiment analysis process which introduces an innovative approach utilizing Advanced Particle Swarm Optimization (APSO) to enhance the performance of sentiment analysis models. The methodology involves preprocessing social media data, extracting relevant features, selecting a sentiment analysis model, and integrating APSO for hyperparameter optimization. The proposed approach is applicable across various domains and can adapt to evolving language trends on social media platforms. Successful deployment of the optimized sentiment analysis model provides valuable insights into public sentiment, facilitating informed decision-making in social media monitoring. Regular monitoring and updates ensure the model's relevance and effectiveness in capturing the dynamic nature of online expressions.

CHAPTER 8

CONCLUSION AND FUTURE WORK

In the dynamic and ever-evolving domain of microblogging platforms, sentiment analysis stands as a critical tool for extracting insights from the vast sea of user-generated content. The research has made significant strides in advancing sentiment analysis, particularly in the context of Twitter data. Leveraging innovative methodologies, and this has addressed the complex challenges associated with analyzing Twitter content, and its findings have farreaching implications. Thus applied APSO for classification on the SS-Tweet dataset considering two features (TF-IDF and N- Grams). Thus after doing sentiment analysis of these tweets, we founded that, TF-IDF features are giving better results (3-4%) as compared to N-Gram features. Thus we can conclude that if we are going to use machine learning algorithm for the text classification than TF-IDF is the best choice of features as compared to N-Gram.

In future, comparison of other features like word polarity score features, word embeddings, twitter specific features etc. Lastly, given the complexity of modern sentiment analysis models, the integration of explainable AI techniques can play a crucial role in demystifying these models, fostering trust and comprehension in their predictions. These exciting avenues promise to push the boundaries of sentiment analysis and enrich its application in the ever-evolving landscape of microblogging platforms.

Aspro Technologies
Solutions WithIN

Aspro

TO:

The Principal,
Rohini College of Engineering and Technology,
Palkulam.

PROJECT SPONSORSHIP LETTER

We, Aspro Technologies, appreciate your interest in securing funding for your project titled, **"Revolutionizing Education Navigating Virtual Realms for enhanced learning experiences"** by the candidates

Sl. no	Name	Dept	Batch
1)	Nivedh Sankar C.J	CSE	2020-2024
2)	Dave Rojer R.P	CSE	2020-2024
3)	Prasanth J	CSE	2020-2024
4)	Sabarish	CSE	2020-2024

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Yours Sincerely,

MANAGER

Aspro Technologies

Aspro Technologies ASPRO

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Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

REVOLUTIONIZING EDUCATION NAVIGATING VIRTUAL REALMS FOR ENHANCED LEARNING EXPERIENCES

A PROJECT REPORT

Submitted by

DAVE ROJER R.P	**(963320104020)**
NIVEDH SANKAR C.J	**(963320104042)**
SABARISH C	**(963320104049)**
PRASANTH J	**(963320104301)**

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

ROHINI COLLEGE OF ENGINEERING & TECHNOLOGY

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BONAFIDE CERTIFICATE

Certified that this project report **"REVOLUTIONIZING EDUCATION NAVIGATING VIRTUAL REALMS FOR ENHANCED LEARNING"** is the bonafide work of **"DAVE ROJER R.P – 963320104020, NIVEDH SANKAR C.J - 963320104042, SABARISH C – 963320104049, PRASANTH J-963320104301"** who carried out the project work under my supervision.

SIGNATURE

Mrs.R.Sabila Devi ,M.Tech

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Dr.Rajeswari, M.E, Ph.D

SUPERVISOR

Assistant Professor

Department of Computer Science and Engineering

Rohini College of Engineering & Technology

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University Practical Viva-Voce Examination held on ...8.5.2024 at Rohini College of Engineering & Technology, Palkulam.

8/5/24

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Kanyakumari District, Tamil Nadu

8/5/2024

INTERNAL EXAMINER **EXTERNAL EXAMINER**

ABSTRACT

In traditional education systems, there exists a significant gap in providing immersive and engaging learning experiences that cater to diverse student needs and preferences. This gap necessitates the development of a Virtual Reality (VR)-based education system that addresses these challenges by creating immersive, lifelike digital environments. Implementing Virtual reality based education system involves creating immersive, lifelike digital environments that bridge the gap between the virtual and physical worlds, offering endless possibilities for innovation and user engagement. This integration offers endless possibilities for innovation and user engagement, transforming traditional learning paradigms into dynamic, interactive experiences. Our architectural design process meticulously blends essential software and hardware technologies to ensure precision and efficiency in construction. By leveraging cutting-edge advancements in VR software, we can create rich, interactive simulations that enhance learning outcomes and student engagement. Furthermore, the scalability and accessibility of VR-based education must be considered to ensure equitable access for all students

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CONCLUSION

Our pioneering project introduces a Virtual Reality-based education stem, immersing learners in transformative digital environments. By seamlessly ıtegrating software and hardware technologies, our design prioritizes precision nd efficiency, elevating educational standards to new heights. Utilizing recycled ıaterials for hardware underscores our commitment to environmental stewardship, ligning education with sustainable practices. Through innovative technology and ustainable design, we empower students for the future, fostering engagement and :xcellence in education. Our project epitomizes a vision where technology, ıustainability, and student success converge, shaping a brighter future for :ducation.

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Sky Valley
SOLUTIONS

TO:

The Principal,
Rohini College of Engineering and Technology,
Palkulam.

PROJECT SPONSORSHIP LETTER

We, Sky Valley Solutions, appreciate your interest in securing funding for your project titled, **"Mobile Application for Fake news detection using deep learning techniques"** by the candidates

Sl. no	Name	Dept	Batch
1)	Jeswin Sam S	CSE	2020-2024
2)	Gowtham E	CSE	2020-2024
3)	Vignesh R	CSE	2020-2024

We are pleased to announce that your project has been selected from many of the projects submitted to our organization with reference sent by you B1/RCET/2023/247, for receiving the sponsorship fund to the tune of Rs. 23000, which will be disbursed to you on 22-02-2023. The project must be completed within a span of 6 months. Monthly review meetings for progress identification will be conducted in our organization and you must present your project progress to the panel.

Project report submission is a must during the deployment of the project in our office.

With Regards,
Sky Valley Solutions
Nagercoil –629502.

SKY VALLEY SOLUTIONS
3-48, BHAKTHANKADU
ERUMBUKADU P.O.
K.K. DIST.- 629 004

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MOBILE APPLICATION FOR FAKE NEWS DETECTION USING DEEP LEARNING TECHNIQUES

A PROJECT REPORT

Submitted by

GOWTHAM	**(963320104023)**
JESWIN SAM	**(963320104028)**
VIGNESH	**(963320104063)**

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

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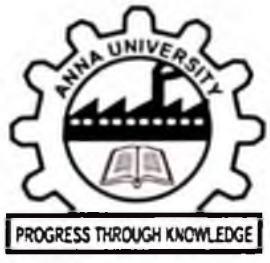

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ROHINI COLLEGE OF ENGINEERING & TECHNOLOGY

PALKULAM, KANYAKUMARI

ANNA UNIVERSITY: CHENNAI 600 025

MAY 2024

ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"MOBILE APPLICATION FOR FAKE NEWS DETECTION USING DEEP LEARNING TECHNIQUES"** is the bonafide work of **"GOWTHAM – 963320104023, JESWIN SAM-963320104028, VIGNESH – 963320104063"** who carried out the project work under my supervision.

SIGNATURE

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University Practical Viva-Voce Examination held on ..... at Rohini College of Engineering & Technology, Palkulam.

8/5/24

INTERNAL EXAMINER

8/5/24

EXTERNAL EXAMINER

PRINCIPAL
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ABSTRACT

The proliferation of fake news has significant implications for public opinion and democracy, necessitating robust detection mechanisms. This paper presents a novel approach to fake news detection using Recurrent Neural Networks (RNNs), leveraging their prowess in processing sequential data, and understanding context within text. Developing a Fake News Detection App utilizing Recurrent Neural Networks (RNN) offers a robust solution for identifying deceptive content. By harnessing RNN's ability to model sequential data, the app can analyse textual information in real-time, distinguishing between genuine and fake news articles. Through deep learning techniques, the app learns patterns and linguistic cues indicative of misinformation, enhancing its accuracy and reliability. Users can access the app to verify the authenticity of news articles, fostering media literacy and combating the spread of false information in the digital landscape.

CHAPTER – 8

CONCLUSION & FUTURE ENHANCEMENT

8.1 CONCLUSION

In conclusion, the development of a fake news detection system represents a critical step towards addressing the pervasive spread of misinformation in the digital age. By leveraging advanced technologies such as deep learning and data analytics, combined with rigorous requirements analysis, system design, and user feedback, we have created a robust and effective tool for identifying and combating fake news.

Through the collaborative efforts of stakeholders, developers, and end-users, we have achieved a system that not only meets the functional and non-functional requirements but also prioritizes user experience, usability, and ethical considerations.

The fake news detection project underscores the importance of interdisciplinary collaboration, drawing insights from fields such as computer science, data science, journalism, and psychology. By integrating diverse perspectives and expertise, we have developed a solution that not only detects deceptive content but also promotes media literacy, critical thinking, and informed decision-making among users.

Moving forward, the ongoing maintenance and evolution of the fake news detection system will be essential to keep pace with the evolving nature of misinformation tactics and emerging technologies. By remaining vigilant, adaptable, and responsive to user needs and feedback, we can continue to refine and improve the effectiveness of our efforts in combating fake news and upholding the integrity of information in the digital era.

Sky Valley
SOLUTIONS

TO:

The Principal,
Rohini College of Engineering and Technology,
Palkulam.

PROJECT SPONSORSHIP LETTER

We, Sky Valley Solutions, appreciate your interest in securing funding for your project titled, **"Traffic Sign Recognition system for urban environment using Deep Learning"** by the candidates

Sl. no	Name	Dept	Batch
1)	Shiju	CSE	2020-2024
2)	Pon Suriya	CSE	2020-2024
3)	Sappam Uddesh	CSE	2020-2024

We are pleased to announce that your project has been selected from many of the projects submitted to our organization with reference sent by you B1/RCET/2023/247, for receiving the sponsorship fund to the tune of Rs. 18000, which will be disbursed to you on 12-02-2023. The project must be completed within a span of 6 months. Monthly review meetings for progress identification will be conducted in our organization and you must present your project progress to the panel.

Project report submission is a must during the deployment of the project in our office.

With Regards,
Sky Valley Solutions
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TRAFFIC SIGN RECOGNITION SYSTEM FOR URBAN ENVIRONMENT

A PROJECT REPORT

Submitted by

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SAPAM UDDESH	**(963320104052)**
SHIJU	**(963320104054)**

in partial fulfilment for the award of the degree

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MAY 2024

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Certified that this project report **"TRAFFIC SIGN RECOGNITION SYSTEM FOR URBAN ENVIRONMENT"** is the bonafide work of **"PON SURIYA (963320104044), SAPAM UDDESH (963320104052), SHIJU (963320104054)"** who carried out the project work under my supervision.

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SIGNATURE

Mrs. L JANCY VINU, M.E, B.Ed

SUPERVISOR

ASSISTANT PROFESSOR

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Submitted for the Viva-Voce held on 08.05.2024.

INTERNAL EXAMINER

EXTERNAL EXAMINER

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ABSTRACT

Developing a robust traffic sign recognition system is essential for the safe operation of autonomous vehicles and the efficient management of road infrastructure. While recent studies have demonstrated significant improvements in accuracy for various benchmarks in traffic sign recognition tasks, there is a notable gap in evaluating their performance in diverse driving environments. In this research, we present a traffic sign recognition framework tailored for vehicles, focusing on the assessment and comparison of deep learning-based object detection and tracking models in real-world scenarios. To train our models, we gather a comprehensive dataset of highway images captured by a camera-equipped vehicle. The project will follow a systematic methodology consisting of data collection, preprocessing, model development, training, evaluation, and validation. Deep learning techniques, such as convolutional neural networks (CNNs) and transfer learning, will be employed to train the recognition model using annotated traffic sign images. The model will be fine-tuned and optimized to achieve high accuracy and robustness in urban environments. Evaluation metrics, including precision, recall, accuracy, and F1-score, will be used to assess the performance of the model against ground truth labels

CONCLUSION

In conclusion, the development of a Traffic Sign Recognition (TSR) system tailored for urban environments using deep learning represents a significant advancement in intelligent transportation systems. By leveraging Convolutional Neural Networks (CNNs) and advanced machine learning techniques, such a system can accurately and reliably detect, classify, and interpret traffic signs in complex urban scenarios.

Throughout this discussion, we have explored various components and modules essential for the design and implementation of a TSR system, including image acquisition, pre-processing, deep learning model integration, training, real-time processing, adaptability, user interface, and feedback mechanisms.

The successful deployment of a TSR system in urban environments offers several benefits, including improved road safety, enhanced driver assistance, and more efficient traffic management. By providing timely and accurate recognition of traffic signs, the system can help mitigate risks, reduce accidents, and optimize traffic flow, contributing to overall improvements in urban mobility and transportation infrastructure.

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To:

The Principal,

Rohini college of Engineering and Technology,

Palkulam.

PROJECT SPONSORSHIP LETTER

We, Southern India, appreciate your interest in securing funding for your project titled, **"Eye Ball Sensor For Automatic Wheelchair For Paralyzed Patients"** by the candidates

Sl.no	Name	Dept	Batch
1)	ABINAYASREE	EEE	2020 - 2023
2)	PRAEDYUSHA	EEE	2020 - 2023

We are pleased to announce that your project has been selected from many of the projects submitted to our organization with reference sent by you **IC/RCET /2023/277**,for receiving the sponsorship fund to the tune of **Rs. 9000 ,**which will be disbursed to you on **06-02-2023**.

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EYE BALL SENSOR FOR AUTOMATIC WHEELCHAIR FOR PARALYZED PATIENTS

A PROJECT REPORT

Submitted by

ABINAYA SREE G S	**963320105005**
PREDYUSHA N	**963320105043**

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

ELECTRICAL AND ELECTRONICS ENGINEERING

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ANNA UNIVERSITY : CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report titled **"EYEBALL SENSOR FOR AUTOMATIC WHEELCHAIR FOR PARALYZED PATIENTS"** is the bonafide work of **ABINAYA SREE G S (963320105005), PREDYUSHA N (963320105043)** who carried out the project work under my supervision.

8/5/24 8/5/24

SIGNATURE	**SIGNATURE**
Dr. D . SAM HARISON, M.E., Ph.D.,	Dr. C . SOWTHILY, M.E., Ph.D.,
HEAD OF THE DEPARTMENT,	**SUPERVISOR,**
Department of EEE,	Department of EEE,
Rohini College of Engineering and	Rohini College of Engineering and
Technology, Palkulam,	Technology, Palkulam,
Kanyakumari - 629701	Kanyakumari - 629701

Submitted for the Viva Voce held on .08.-.05.-.2024.....

8/5/24. 8/5/2024

INTERNAL EXAMINER **EXTERNAL EXAMINER**

PRINCIPAL
Rohini College of Engineering & Technology
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ABSTRACT

According to a new report prepared jointly by the World Health Organization and the World Bank, 15 percent of the world 's population is disabled. Paralysis is one of the biggest curses to mankind. The persons affected by physical disabilities use an automatic wheelchair and they do not have ability to control the powered wheelchair using joystick and hand movements as it is tougher for the person to move. In worst case paralysis the person could move only his eyes. The head movement or voice-based wheelchairs will not hold good in that situation. So, an eyeball movement-based wheelchair would help the best for those people. This would be more accurate when compared to other automated wheelchairs. A method for eyeball localization is proposed for controlling wheelchair. An algorithm is furnished with various processing steps and develops an efficient system to reduce both the cost and the computational complexity. Primary goal was to detect eyes in real-time and to keep track on it. The idea is to create an Eye Monitored System which allows movement of the patient 's wheelchair depending on the eye movements. A patient looks directly at the camera mounted on a head gear and is able to move in a direction just by looking in that direction.

Beston Industries

BESTON

ISO 9001 CERTIFIED COMPANY

TO:

The Principal,
Rohini College of Engineering and Technology,
Palkulam.

PROJECT SPONSORSHIP LETTER

We, Beston Industries, appreciate your interest in securing funding for your project titled, **"Design And Implementation Of An Intelligent Degital Battery Management System For E-Vehicles"** by the candidates

Sl. no	Name	Dept	Batch
1)	GOKUL KRISHNA	EEE	2020-2023
2)	MUTHUKUTTY	EEE	2020-2023
3)	SATHYA SIVAN	EEE	2020-2023
4)	THIRUMALAI MAHADEV	EEE	2020-2023

We are pleased to announce that your project has been selected from many of the projects submitted to our organization with reference sent by you BI/RCET/2023/247, for receiving the sponsorship fund to the tune of Rs. 9000, which will be disbursed to you on 12-02-2023. The project must be completed within a span of 6 months. Monthly review meetings for progress identification will be conducted in our organization and you must present your project progress to the panel.

Project report submission is a must during the deployment of the project in our office.

For BESTON INDUSTRIES

Managing Partner

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Tel : 0485 – 2267909, Mob : 7511152938 | Email : info@bestonindustries.com, service

DESING AND IMPLEMENTATION OF AN INTELLIGENT DIGITAL BATTERY MANAGEMENT SYSTEM FOR E-VEHICLES

A PROJECT REPORT

Submitted by

GOKUL KRISHNA H V	**963319105022**
MUTHU KUTTI S	**963319105039**
SATHIYA SIVAN K	**963319105049**
THIRUMALAI MAHADEV C	**963319105059**

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRICAL AND ELECTRONICS ENGINEERING

ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY

ANNA UNIVERSITY: CHENNAI 600 025

MARCH 2023

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Kanyakumari District, Tamil Nadu

BONAFIDE CERTIFICATE

Certified that this project report titled "DESING AND IMPLEMENTATION OF AN INTELIGENT DIGITAL BATTERY MANAGEMENT SYSTEM FOR E-VEHICLES" is the bonafide work of GOKUL KRISHNA H V (963319105022), MUTHU KUTTI S (963319105039), SATHIYA SIVAN K (963319105049), THIRUMALAI MAHADEV C (963319105059) who carried out the project work under my supervision

SIGNATURE

Mr.P.JEYAKUMAR, M.E.,

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SIGNATURE

Dr.T.SREEDHAR, M.E.,Ph.D.,

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Submitted for the Viva Voce held on ....22/05/2023.....

INTERNAL EXAMINER

EXTERNAL EXAMINER

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Kanyakumari District, Tamil Nadu

ABSTRACT

Battery management systems (BMS) carry out various functions for effective utilization of stored energy in lithium-ion batteries (LIBs). Among numerous functions performed by the BMS, estimating the state of health (SOH) is an essential and challenging task to be accomplished at regular intervals. Accurate estimation of SOH ensures battery reliability by computing remaining lifetime and forecasting its failure conditions to avoid battery risk. Accurate estimation of SOH is challenging, due to uncertain operating conditions of EVs and complex non-linear electrochemical characteristics demonstrated by LIBs. In most of the existing studies, standard charge/discharge patterns with numerous assumptions are considered to accelerate the battery ageing process. However, such patterns and assumptions fail to reflect the real world operating condition of EV batteries, which is not appropriate for BMS of EVs.The problem of state of health (SOH) estimation of lithium-ion battery. In order to validate the performance of lithium-ion battery, an accelerated aging experiment of the battery is designed. Based on the interval capacity corresponding to the voltage range from 3.95 V to 4.15 V, the least square method is introduced to estimate the battery SOH. Finally, a battery test bench is established, and the effectiveness of the proposed method is verified via simulation and experiment.

GAMI

G. A. M. INDUSTRIES

Manufacturers of Precision Machined Components

No.50, 10th Main, Ward No.2, Kalanagar Main Road, Near Kala Complex, Kammagondanahalli, Jalahalli West, Bangalore-560 015. E-mail : gamindustries@gmail.com

TO:

The Principal,
Rohini College of Engineering and Technology,
Palkulam.

PROJECT SPONSORSHIP LETTER

We, G.A.M Industries, appreciate your interest in securing funding for your project titled, **"Real Time Hazard Detection Using Smart Helmet"** by the candidates

Sl.no	Name	Dept	Batch
1)	GOPIKA	EEE	2020 - 2023
2)	NANDHANA	EEE	2020 - 2023
3)	NAVARAMYA	EEE	2020 - 2023
4)	BALA BHARATHI	EEE	2020 - 2023

We are pleased to announce that your project has been selected from many of the projects submitted to our organization with reference sent by you GAM/RCET/2023/247, for receiving the sponsorship fund to the tune of Rs. 10,500, which will be disbursed to you on 16-01-2023. The project must be completed within a span of 6 months. Monthly review meetings for progress identification will be conducted in our organization and you must present your project progress to the panel.

Project report submission is a must during the deployment of the project in our office.

for, G.A.M Industries
For GAM Industries

Authorised Signatory
Manager – Human resources

PRINCIPAL
Rohini College of Engineering & Technology
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Palkulam, Vanyoor (P.O.) - 629 401
Kanyakumari District, Tamil Nadu

REAL-TIME HAZARD DETECTION USING SMART HELMET

A PROJECT REPORT

Submitted by

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in partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

ELECTRICAL AND ELECTRONICS ENGINEERING

ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY

ANNA UNIVERSITY: CHENNAI 600 025

MAY 2024

PRINCIPAL
Rohini College of Engineering & Technology
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Kanyakumari District, Tamil Nadu

BONAFIDE CERTIFICATE

Certified that this project report "**REAL-TIME HAZARD DETECTION USING SMART HELMET**" is the bonafide work of "**GOPIKA M A (963320105019), NANTHANA P B (963320105038), NAVA RAMYA N(963320105039), BALA BHARATHI K (963320105302)**" who carried out the project work under my supervision

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Submitted for the Project Viva-voice examination held on ..08... MAY 2024.

8/5/24
INTERNAL EXAMINER

8/5/24
EXTERNAL EXAMINER

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ABSTRACT

This paper presents the development of a state of the art real-time hazard detection system integrated into a smart helmet, designed to bolster user safety, particularly in environments prone to hazards. The system integrates a suite of sensors, including the NodeMCU, alcohol sensor, smoke sensor, vibration sensor, key, driver, motor, LCD display, and GPS module. Upon donning the smart helmet, the alcohol sensor swiftly identifies alcohol levels nearby. If alcohol is detected and the wearer attempts vehicle ignition, the system prevents ignition, curbing drunk driving incidents. Concurrently, the smoke sensor continuously monitors air quality, promptly alerting the user to harmful gases or pollutants via the integrated LCD display, ensuring awareness of health risks in polluted areas. The vibration sensor plays a pivotal role in accident detection; upon impact, it triggers an alert, notifying the user and transmitting pertinent data to a mobile application. Additionally, the GPS module relays the user's location to the mobile application, facilitating swift emergency response and potentially minimizing accident severity. Importantly, all gathered data, spanning alcohol levels, pollution status, and accident alerts, is seamlessly transmitted to the user's mobile device in real-time, empowering users to stay abreast of their surroundings and take proactive safety measures. This comprehensive hazard detection system heralds a paradigm shift in personal safety, offering users unparalleled protection while on the move in hazardous environments.

Spacecraft Acoustics

To:

The Principal,

Rohini college of Engineering and Technology,

Palkulam.

PROJECT SPONSORSHIP LETTER

We, Spacecraft Acoustics, appreciate your interest in securing funding for your project titled, **"Optimized Battery Management System For Enhanced Energy And Life Span For Autonomous Robot**" by the candidates are.

Sl.no	Name	Dept	Batch
1)	ABDUL RAHMAN	EEE	2020 - 2023
2)	EVAN FELIX	EEE	2020 - 2023
3)	SANJAY	EEE	2020 - 2023
4)	SHANMUGA SUNDARAM	EEE	2020 - 2023

We are pleased to announce that your project has been selected from many of the projects submitted to our organization with reference sent by you **IC/RCET /2023/277**,for receiving the sponsorship fund to the tune of **Rs. 10450 ,**which will be disbursed to you on **27-09-2023**.

The project must be completed within a span of **6 months**. Monthly review meetings for progress identification will be conducted in our organization and you must present your project progress to the panel.

Project report submission is a must during the deployment of the project in our office.

SPACECRAFT ACOUSTICS
Authorised Signature

PRINCIPAL
Rohini College of Engineering & Technology
Anjugramam Kanyakumari Main Road,
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Kanyakumari District, Tamil Nadu

OPTIMIZED BATTERY MANAGEMENT SYSTEM FOR ENHANCED ENERGY EFFICIENCY AND LIFE SPAN FOR AUTONOMOUS ROBOT

A PROJECT REPORT

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MAY 2024

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BONAFIDE CERTIFICATE

Certified that this project report titled **"OPTIMIZED BATTERY MANAGEMENT SYSTEM FOR ENHANCED ENERGY EFFICIENCY AND LIFE SPAN FOR AUTONOMOUS ROBOT"** is the bonafide work of **ABDUL RAHMAN N (963320105001), EVAN FELIX M (963320105016), SANJAY H (963320105048), SHANMUGA SUNDARAM N (963320105051),** who carried out the project work under my supervision.

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8/5/24

INTERNAL EXAMINER

8/5/2024

EXTERNAL EXAMINER

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ABSTRACT

Autonomous robots are increasing in various domains, ensuring the continuous operation. The main objective of the robot is the efficient management of the battery system. This project proposes a comprehensive Battery Management System(BMS) for autonomous robots to optimise energy utilization and ensure safety. The BMS comprises of designed to monitor, control, and maintain the battery health throughout the lifecycle. This includes the State of Charge estimation, cell balancing, temperature monitoring and fault detection systems. BMS incorporates fail-safe mechanisms to prevent overcharging, over-discharging, and thermal runaway, thereby mitigating the risk of battery damage or hazardous situations. The proposed BMS is implemented and validated on a prototype autonomous robot platform, demonstrating its effectiveness in improving energy efficiency, prolonging battery life, and ensuring safe operation in real-world scenarios. Through comprehensive testing and evaluation, the BMS exhibits robust performance across diverse operational environments and enhance the reliability of robotic systems in various applications.