

3.3.3 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during year										
SL No.	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Dr. Sunil B. Ingole	Developement of Novel Materials for Home Based low cost Additives	---	---	---	International	2022	978-93-5545-087-6	ICEM	Namya press
2	Dr. Sunil B. Ingole	Book Chapter - Applications of Artificial Intelligence in Real World, Chapter title - AI- Based Street and Parking Light Monitoring	---	---	---	International	2022		ICEM	
3	Dr. Poorna Shankar	Chapter 17 -(Skillsets and attributes for enhanced teaching-learning outcomes at higher educational institutions in disruptive times	---	---	---	International	7th April 2022	ISBN:9780323911856	ICEM	Elsevier
4	Dr. Darshana Desai	Study of Collaborative Filtering-Based Personalized RecommendationsQuality, Relevance, and Timing Effect on Users' Decision to Purchase	---	---	---	International	2021	ISBN: 9781003216278	ICEM	Taylor Francis
5	Pooja Sharma	Smart Logistic Management System for Agriculture Sector	---	---	---	International	21-Oct	ISBN 978-93-91786-15-1	ICEM	Prominent Publication LLP
6	Kiran Devade	Sewage Treatment plant (STP): Industry 4.0 case study switch from breakdown to predictive maintenance	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		
7	Aditee Huparkar	A Study on Influence of FinTech on Customer Satisfaction of Banks in Pune	Journal of Positive School Psychology 2022	International Conference on recent trends in Management	International	22-May	ISSN 2717-7564.	ICEM		
8	Prof. Dr. Vinayak Kale	Design and Modelling of Material Handling System	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		
9	Dr.Vinayak Kale	Simulation and analysis of 3 jaw chuck	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		
10	Vinayak kale.	Kinematic synthesis of four bar linkages with case studies	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		
11	Dr.Mahesh bhong	Thermal Analysis Of agricultural produce dryer	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		
12	Dr. Mahesh Bhong	Design & Analysis of Elevator Bucket	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		
13	Mahesh bhong	Color code analysis of dried food products	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		
14	Hemant Darokar	Design of heat exchanger for indirect evaporative cooling	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		
15	Hemant darokar	Capacity control of reciprocating compressor	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		
16	Prof.Hemant Darokar	Virtual Lab Experiment for Trial on Diesel Engine	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		
17	Prof. Hemant Darokar	PROCESS IMPROVEMENT OF CUTTING TOOLS	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM		

18	Shubhangi Manvatkar		Electromagnetic Suspension System	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
19	Shubhangi manvatkar		Design & Manufacturing of Multiple Tools For Inlet Header Of a Radiator	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
20	Prof. Shubhangi Manvatkar		Comparative analysis of circular fins In the heat transfer	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
21	Siddheshwar S. Shirbhate		Corrugated sheets drying machine	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
22	Siddheshwar. S. Shirbhate		Tyre Pressure Control System	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
23	Prof.Vishal Meshram		A Computational Fluid Dynamics Trial On Centrifugal Pump And it's Result Interpretation	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
24	Prof.Vishal Meshram		Design and fabrication of screw conveyor	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
25	Prof.Vishal Meshram		Design and analysis of shell and tube heat exchanger using temax standards	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
26	Pranali Khatake		Design and Analysis of Torsion Bar	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
27	Prof. Ashwini Admane		Cam and Follower profile drawing for IC Engine	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
28	Ashwini Admane		Air conditioning design for residential/office building	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
29	Ashwini Admane		Life Improvement in Cutting Tools	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
30	Ashwini Admane		Vapour compression test rig	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
31	Prof. Ashwani Gaikwad		Beam analysis using direct stiffness method in python	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
32	Prof. Ashwini Gaikwad		Reduction of fuel consumption using smart traffic control	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
33	Prof. Ashwini Gaikwad		Bottle Filling and Capping Using Geneva Mechanism	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
34	S.B. Chopade		Design and modelling with automation of LPG trolley	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
35	S.B. Chopade		USE OF VBA FOR ANALYSIS OF BEAM	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
36	Sagar Chirade		TAILGATE TRIM LOCKING AND OPENING IN AUTOMOBILE	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
37	Sagar Chirade		Flow and Thermal analysis of jet impingement cooling	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
38	Prof. Ashwani Gaikwad		Beam analysis using direct stiffness method in python	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
39	Prof. Ashwini Gaikwad		Reduction of fuel consumption using smart traffic control	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM

40	Prof. Ashwini Gaikwad		Bottle Filling and Capping Using Geneva Mechanism	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	i – MESCON 21	National	2021	ISSN: 2348-6953	ICEM
41	Prof. Amit Narwade		Design and analysis of Machining parameters of Ti-Alloys Machining	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	(i – MESCON 21)	National	2021	ISSN: 2348-6953	ICEM
42	Prof. Amit Narwade		Optimization of Machining Parameter for hard Material	Conference Proceedings of i - Mechanical Engineering Students Conference 2021	(i – MESCON 21)	National	2021	ISSN: 2348-6953	ICEM
43	Prof. Manjusha Tatiya		sign language interpreter using deep learning	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
44	Prof. Manjusha Tatiya		early prediction of students performance using support vector machine (SVM)	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
45	Prof. Manjusha Tatiya		Automated payroll with GPS tracking and image verification	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
46	Prof. Pooja Wale		survey on sketch based image retrieval	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
47	Dr. Soumitra Das		intelligent product master	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
48	Prof. Pooja Sharma		Real estate advertising using BI	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
49	Dr. Soumitra Das		Toursense A framework for tourist identification using machine learning	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
50	Prof. Pooja Sharma		intelligent inventory management system	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
51	Prof. Pooja Sharma		Text summarization using NLP	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM

52	Prof. Pooja Wale		AUTOMATED BIRD SPECIES IDENTIFICATION USING AUDIO SIGNAL PROCESSING AND NEURAL NETWORKS.	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
53	Dr. Vikas Nandgaonkar		WiFi based location monitoring system	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
54	Prof. Pooja Wale		detection of laryngeal cancer using audio processing	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
55	Prof. Shwetkranti Taware		Chess neural network using artificial intelligence	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
56	Prof. Shwetkranti Taware		Virtual airnote using AI and computer vision	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
57	Prof. Shwetkranti Taware		document plagiarism checker with NLP	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
58	Prof. Shwetkranti Taware		Resume ranking using natural language processing	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
59	Prof Anita Patil		An approach against covid 19 face mask detection and recognition	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
60	Prof. Deepali Dhadawd		machine learning based expert system for automation sleep apnea detection	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
61	Prof. Deepali Dhadawd		Time tracker based system for freelancer using machine learning	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
62	Prof Anita Patil		smart biometric framework for emergency patients treatment	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM

63	Prof. Deepali Dhadawd		intelligent gate pass system with covid precautions	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
64	Prof Anita Patil		digital framing mobile application for farmers to sell farm products online	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
65	Prof. Jayshree Mundada		Secure ATM transaction using face recognition and Otp	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
66	Prof . Sinu Nambiar		Alzheimer's disease detection using machine learning techniques	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
67	Prof . Sinu Nambiar		Brain tumor detection and analysis using CNN	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
68	Prof Anita Patil		A comprehensive analysis of video integrity using blockchain	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
69	Prof . Sinu Nambiar		Virtual simulation of self driving car in carla	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
70	Prof . Sinu Nambiar		remote employee /freelancer activity management system	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
71	Prof. Sumit Harale		predictive analysis of an ipl match using machine learning	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
72	Prof. Jayshree Mundada		a survey on live yoga pose detection using machine learning	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
73	Prof. Sumit Harale		project arsenal	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM

74	Prof. Sumit Harale		artificial intelligent system for automatic depression level analysis through visual expression	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
75	Prof. Sumit Harale		COVID 19 detection using chest x-ray	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
76	Prof. Jayshree Mundada		Rainfall threshold analysis for landslide early warning system	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
77	Prof. Pragati Kinage		Gesture controlled user interface	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
78	Prof. Jayshree Mundada		handwritten recognition system	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
79	Prof. Pragati Kinage		bitcoin cryptocurrency prediction using machine learning	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
80	Prof. Jayshree Mundada		pre-programmed road block using arduino mega 25560	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
81	Prof. Pragati Choudhari		social media automation system	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
82	Prof. Pragati Kinage		iot based crowd monitoring and alert system using ssd with deep learning	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
83	Prof. Deepali Dhadawd		AI based online examination portal	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM
84	Prof. Pavita PP		The rescue robo.	11th National Conference on "Advances in Data Science" ICTAT JOURNAL Organised by Department of Computer Engineering	QUANTONIUM 22	National	2022	ISSN: 2348-6953	ICEM

85	Prof. Sujata Deo		Analysis of Tuned Mass Damper	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
86	Prof. Shreyas Satpute		Performance Analysis of Constructed Hybrid Wetland for Greywater Treatment	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
87	Prof. Vishal Chaugule		Study of Transparent Concrete	Technical Innovation in Civil	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
88	Prof. Nikhil Mulik		Impact of Coastal Defences on Tidal Wave Causing Flood Risks	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
89	Prof. Savita Jangale		Study and Analysis of Safety in Building Construction	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
90	Prof. Sujata Deo		Adjustable Modified J-Ring	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
91	Prof. Vijaykumar Saini		Soil Stabilization of Rural Road Behind Indira National School Parandwadi Using Fly Ash	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
92	Prof. Vijaykumar Saini		Analysis of Traffic for Prevention of Accidental Rate on Mumbai Pune Expressway	Technical Innovation in Civil	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
93	Prof. Madhuri Bore		Economical method of reuse of Grey Water	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
94	Prof. Shreyas Satpute		Feasibility Study of Silica Gel Based Atmospheric Water Generator	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
95	Prof. Madhuri Bore		Experimental Investigation on Paver Blocks by Using Waste Kota-Stone Chips and Bottle Caps by Partially Replacement of Coarse Aggregate	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
96	Prof. Nikhil Mulik		Evaluating strength of Concrete made by adding Silica fume to cement	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
97	Prof. Savita Jangale		Study and Analysis of Water Logging Problems at Daman Gangavaitarna-Godavari Linking Project	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
98	Prof. Ashwini Joshi		Replacement of River Sand by Waste Foundry Sand in Paver Blocks	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
99	Prof. Sachin Ingle		Design of Highway Using Civil-3d Software	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM
100	Prof. Madhuri Bore		Triangular Plate Added Damping and Stiffness Dampers	Technical Innovation in Civil Engineering	(T.I.C.E. 2022)	National	2022	ISSN: 2348-6953	ICEM



**25th May, 2022**

# **I-MECHANICAL ENGINEERING STUDENTS CONFERENCE 2022 (IMESCON 2022)**

**Organized By**  
**Mechanical Engineering Department**

**Indira College of Engineering  
& Management**



**INDIRA**

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# **QUANTONIUM '22**

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**ICTAT JOURNAL**

**MAY  
25TH  
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## **Chairperson's Message**



The haze of uncertainty experienced by the world economy over the past year owing to the Eurozone crisis is just about clearing. And India is as usual the flag bearer in showing the way to beating the recession. From all accounts it appears the grey clouds are clearing.

And the country is in for some strong and positive growth, once again making a strong pitch for being the leader among the world's economies. India Inc. is in top gear and extremely positive on the prospects for the coming years. The corporate sector's eager rush for trained and qualified managers to cater to this increased growth is on and there can be no better time than now to add to your skill sets to stand tall in the competition. And when it comes to knowledge sharing, Indira has proved that it has what it takes to be among the top higher education institutions in India. The talent that we harness at Indira Group has ensured that we are ranked among the top 50 Institutions in India by the most respected ranking agencies e.g. Business India, Outlook, and Economic Times, to name a few.

The students at Indira are the prime movers of this endeavor to reach greater heights if their performance in academics, or inter-college-university events in all fields, or in their career, is any indication. If you have the passion to excel, Indira will ensure that your talent is fully exploited for the benefit of all – the country, the corporate sector, and you.

My best wishes.

**Dr. Tarita Shankar Chairperson,  
Indira Group of Institutes**

## **Group Director's Message**



*"If people aren't telling you that your idea is crazy, then it is likely not a very big idea."* - Francis Ford Coppola

This is the world of energy, environment, food, communications, logistics, manufacturing, and product development. The Indian government has declared this decade as the “Decade of Innovation”. The challenge for India in this decade is to look beyond development occurring solely in scientific R & D laboratories to building a holistic environment encompassing industry, education and the service sectors to drive growth. Of course, technology is a very important part of the equation.

The secret of innovation is to think big, act small, fail fast and learn rapidly. It is key not to let pre-determined goals undermine future success. It requires focus, leadership, and dedication to create an authentic community of motivated thinkers and doers that can open new channels for industry.

Exponential advances in knowledge, communication, instrumentation, and information technology have created mind-boggling possibilities and students are cutting across traditional disciplinary boundaries in unprecedented ways. As an educator, we are aware of the challenges ahead and also aware that students are driven by passion, curiosity, engagement, and dreams. We at Indira, focus on the environment in which they learn and the forces, ideas, inspirations, and empowering situations to which they are exposed.

In this global knowledge age — with its serious problems and great opportunities — we need the best and brightest to enter engineering stream. And we wish larger no. of students to work in the areas of engineering innovation that will keep us secured, healthy, and flourishing within a vibrant economies and organizations and be prepared to live & work as global citizens.

**Chetan Wakalkar Group Director,  
Indira Group of Institutes**

## **DIRECTOR's Message**



Entrepreneurial spirit is characterized by innovation and risk-taking, and is an essential part of a nation's ability to succeed in an ever changing and increasingly competitive global marketplace. The technological uprising along with rapid growth and expansion around the world has opened new directions to masses for developing the knowledge based culture. Every nation and society has to create the pool of scholarly wealth so as to capitalize upon the modern demands and pave the path for entrepreneurship. I, being a Director of Indira College of Engineering and Management, aim to groom highly excellent Engineers and Managements professionals with entrepreneurial mindset powered by technological skills and good human values. Our efforts are oriented towards serving the society at large by creating right technical entrepreneurial professionals. It is important to give professional students the practicability of the theoretical knowledge achieved in class room through experimental learning tools and experiential learning by participating in nationwide programs like Hackathon and Learnathon. We teach importance of social values to the students by taking students to visit orphanages and old age homes. We make the students adaptive and decision makers by inculcating ability to become conceptualize to solve problems holistically, not just theoretical analysis. Conferences are a way to meet the industry milestones using the technological knowledge.

"Don't wait for the stars to align, reach up and rearrange them the way you want. Create your own constellation". Select the right professional course and start working towards it endlessly day and night and create your spectacular future and embrace its life transforming enduring results.

**Dr. Sunil Ingole Principal,  
Indira College of Engineering and Management**

## **Head of the Department's Message**



Education is not the learning of facts, but the training of mind to think. Education is an ornament in prosperity and a refuge in diversity.

This Year of Indira Group of Institutes is both an occasion for thanksgiving towards our stakeholders and commitment to face the new challenges, we could look back to our beginnings get inspired by our going and move forward to seize the immense opportunity of living meaningful lives in service to others. ICEM takes pride in organizing conferences from time to time to keep pace with the emerging technological innovations for incorporating research outlook in the students which in turn will make them Technocrats in this technologically evolving era and walk hand in hand with the industrial trends. We are committed to train our students professionally to make them employable and a human with good morale.

Department of Computer Engineering, proudly presents to the world of education our 8th conference titled as, "Advances in Data Science (QUANTONIUM'22) on 25<sup>th</sup> May 2022.

This conference is devised to provide platform for the exchange of the knowledge which will help in amalgamation of several insights and research works in the domain Advances in Data Science with an objective to understand the insightful research work carried out by several students and research professionals.

**Dr. Soumitra Das HOD,  
Department of Computer Engineering**

## **About Department of Computer Engineering**

Keeping in view the emerging IT industry challenges, the computer department at ICEM is known for its academic excellence along with professional learning flexibility for turning the students and provide enhanced training in advanced technologies.

The computer engineering department is well equipped with the Highly Qualified & Skilled Teaching Staff with Industrial experience, sophisticated laboratories & State-of-Art Infrastructure.

The Department has corporate tie-up with Autodesk, Amazon, Dell EMC, Palo Alto and Oracle, and also provides international online domain certification programs, aptitude training and GATE coaching for final year students which leads to quality placements in multinational core companies. Every year a team of students participate in Smart India Hackathon, a 36 hours programming challenge conducted by AICTE & Ministry of HRD in association with NASSCOM & win prizes.

## **Conference Convener**



**Prof. Sinu Nambiar**

Assistant Professor

Convener

## **About Conference**

This National Conference will provide an arena for exchange and discussion of research ideas and results amongst the students and academicians. This Conference will provide a platform to showcase their knowledge and innovative ideas. The aim is to provide forums for students, researchers and practitioners from both academia as well as industrials to meet and contribute possibility of applying technical and scientific knowledge to several areas of applications. The objective of this conference is to enhance the penetration to the work of each other which will augment the depth of knowledge of the participants and a healthy platform will be created for mutual exchange of technical knowledge which will help the scientific community to accelerate the research work.

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**Paper ID:** Quanto22\_1

**Author:** Rajita Roy, Nixon Kurian, Ankit Sharma, Bhavesh Sharma, Manjusha Tatiya.

**Paper Title:** Sign Language Interpreter using Deep Learning

**Abstract:**

There has always been a communication gap between the non-impaired and the deaf-mute. Not everyone is fluent in sign language, and hence the impaired always fall a victim to empathy, instead of feeling the sense of inclusivity. This project, hence, aims on bridging this gap between the deaf-mute and the non-impaired people using a Deep Learning Application that would translate sign language to text in real time and help convert text/audio into sign language too. This application will use Python as its core language, Django as its backend framework and ReactJS as its frontend framework. Apart from this, this application will also be using modules like Open CV for Image Recognition in real-time. The only vital hardware requirement for this project is a webcam. Hence, this is merely an initiative to enclose the relationships from norms of humanity which could possibly go a long way eventually. This practice and application aim to build a positive society objectively with a solution.

**Keywords:** R-CNN, NLP, LSTM, ReactJS, Django

**Paper ID:** Quanto22\_2

**Author:** Kshitij Nagdeve, Manjusha Tatiya, Avinash Kumar Singh, Ashwini Vanave, Vaishnavi Bhapkar

**Paper Title:** Early Prediction of Student's Performance using Support Vector Machine (SVM)

**Abstract:**

The prediction of students' academic achievement is crucial to be conducted in a university for early detection of students at risk. This paper aim stop resent data mining models using classification methods based on Support Vector Machine (SVM) algorithms to predict students' academic achievement after preparatory year and identify the algorithm that yields best performance. The students' academic achievement is defined as High, Average, or Below Average based on graduation CGPA. and are applied on a newly created dataset consisting of 339 students and 15 features, at the College of Computer Science and Information Technology (CCSIT). The carried-out module explores the connection between under studies' preadmission scholastic profile and last scholarly execution. Information Sample of under studies in one of the Federal Polytechnic in southwest piece of Nigeria was utilized. This exploration zeroed in on utilizing information mining procedure to foster a model for anticipating understudy execution dependent on 'O' level out-comes and their initial 3 semester at every semester. Information preprocessing was done to eliminate the

aftereffects of rusticated and ousted understudy. Results acquired by contrasting SVM and other ML procedures, for example, straight Regression shows that SVM beats other ML calculations.

**Keywords:** Support Vector Machine (SVM), Neural Network, Computer Vision

**Paper ID:** Quanto22\_3

**Author:** Anushka Lohar, Hemangi Kore, Komal Mahajan, Rajshree Sangale, Pooja Wale

**Paper Title:** Survey on Sketch-based Image Retrieval

**Abstract:**

These days there has been a great development in the communication discipline. As a result, the safety and privacy of the information has come to be a fundamental requirement for communique. Especially in Military and Defence field where confidentiality is major concern. So, keeping these points in consideration our system aims to create a secret communication system for Military application using multi-image steganography with cryptography with the principles of image processing and information protection. When Military Organization send any message that message obviously contain information regarding security purpose of our country. If this message stolen or hacked by terrorist organization person that will be result bad impact on our country security. The solution for this is to send the hidden message with more security because of this we are going to use the cryptography and multi-image steganography technology in our project with three level security along with the audio as well as text transmission.

**Keywords—** Multi-image Steganography, AES, Security, Encryption, Decryption, Cryptography

**Paper ID:** Quanto22\_4

**Author:** Prathamesh Shinde, Aditya Kadam, Saylee Avhad, Ruturaj Patil, Manjusha Tatiya

**Paper Title:** Automated Payroll with GPS Tracking and Image Verification

**Abstract:**

Employee Payroll System is one of the core areas of any business and so is attendance. Payroll is a serious concern for every small and big enterprise. It is mandatory for all employers to pay every employee as per the rules and regulations. The idea of this work is to focus on maintaining the attendance of the employees in the company as well as working outside the company, like out-of-fielders. This system is a combination of web as well as mobile application where the user will be using the mobile application and admin/HR will work with web application. The user will have this application in his mobile device, when the user will login to the system his image will be captured and verified.

through an API also his GPS location will be sent to the database. To keep track of the attendance as well as payroll of the field work people, this system plays a major role. When the HR login to the system he/she can check the GPS location of the employee by entering employee ID. HR can check salary of the employee by entering employee's identity number. This application helps admin/HR to easily check the salary of the employee as well as his/her attendance record. Since GPS location of the employee is tracked and face can be authenticated, so employee will not attempt to add proxy attendance.

**Keywords** – Employee Payroll system, Global positioning system, Application programming interface

**Paper ID:** Quanto22\_5

**Author:** Dr. Soumitra Das, Aravind Pidaparthi, Harsh Kumar Sharma, Nishant Mishra, Avinash Jha

**Paper Title:** Intelligent Product Master

**Abstract:**

There are numerous AI-powered assistants on the market, including Google Assistant, Alexa, Siri, and many others. However, the limitation with these personal assistants is that they are not corporate specific, as we cannot tell them to do specific tasks such as managing a GitHub repository, retrieving a solution to a query from Stack Overflow, recording a meeting, and so on. This project, hence, aims on bridging the gap between the personal assistant and the organizational requirements with complete access to organizational resources such as JIRA, GitHub, Bitbucket and Stack Overflow. Intelligent Product Master is an AI/ML-based application to be hosted within a corporate/organization intranet and the primary responsibility of this software robot (Intelligent Product Master -IPM) is to learn-mine-analyze-serve information about a product to optimize development and support processes in a product team. The primary objectives of this application are to respond with accurate information by voice to text conversion/email, providing relevant and useful information to users by mining existing data (could use APIs of the information hosting applications)

**Keywords:** PM, API, JIRA, StackOverflow

**Paper ID:** Quanto22\_6

**Author:** Pooja Sharma, Anushka Joshi

**Paper Title:** Real Estate Advertising using BI

**Abstract:**

We propose to build a real estate Advertising Using Business intelligence (REABI)-Real Estate Advertising Portal that allows users to post property

for sale,Buy as well as search sort property and contact its owner

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online,Payment gateway Page it gives location type of property, Also provide 24/7 service to all its users .Also in this we provide BI Panel which gives virtual tour of proposed property,Market survey analysis BI graph ,Quality assurance report,Every user having Profile which created at the time of Register ,and once registering is done then every time only login command is to use.This portal is Effecting on countries GDP rate.Because Real estate is 10%of total GDP

**Keywords:**

Business Intelligence(BI),Real estate advertising,web advertising(REABI)

**Paper ID:** Quanto22\_7

**Author:** Anjali Solanke, Shubham More, Aditya Sagave, Satyam Singh, Dr. Soumitra Das

**Paper Title:** TOURSENSE A FRAMEWORK FOR TOURIST IDENTIFICATION USING MACHINE LEARNING

**Abstract:**

We promote and demonstrate Tour Sense, a method for identifying and analyzing travelers based on social media data. The observed limitations of employing traditional information sources (e.g., social media information and review information) that consistently encounter the negative impacts of limited inclusion of vacationer population and erratic data delay prompted our work. Tour Sense demonstrates how vehicle information may overcome these limitation sand provide improved information to a variety of partners, including visit offices, transportation administrators, and visitors themselves. By collecting data and completing a data modelling study to depict the distribution of tourist hot spots, tourist locations, and resident information, among other things. Then, using the trace data from the identified visitors, we create a tourist preference analytics model to learn where an intuitive user interface is provided to facilitate access to information and obtain insights from the analytics results.

**Keywords:**

Content based algorithm,Tourists preference analytics, Collaborative Filtering, MachineLearning.

**Paper ID:** Quanto22\_8

**Author:** Pooja Mane, Puja Thombare, Swati Pete, Yash Oswal, Prof Pooja Sharma

**Paper Title:** Intelligent Inventory Management System

**Abstract:**

This Application will help the Shop owner to manage the shop stock using the intelligent inventory management system. It will provide a common platform to store the records of the products which are in the shop and customer can buy the products and invoice will be generated for the same. It will save time of the Shop owner , staff and customer as well.This application provides an interface to staff to register himself and will able to place the customer order as product requirement by the customer. For Admin It provides a Dashboard where he can add or view products and its quantity. Admin also check orders list which are placed by each staff. He also can see the recent four orders which are placed. Admin also check reports in the form of graphs where he will get the stock available graph and product sold out graph. Admin also can see the trending Product Line which is trending in that month by using prediction machine learning algorithm i.e. liner regression. Admin also get the low stock alert in their login as well as mail is sent to admin mail id. Customer also get the product order by them a mail will be sent to the customer mail id. Furthermore, the paper will present and discuss the technical solutions and best-practice guidelines of Inventory Management System.

**Keywords:** Smart Inventory, Management System,Intelligent Inventory Management System, Machine Learning Algorithm, Agile, Linear Regression Prediction

**Paper ID:** Quanto22\_9

**Author:** Aameyaa Dhumal, Sneha Joshi, Shantanu Mane, Piyush Sharma, Prof. Pooja Wale

**Paper Title:** Text Summarization using NLP

**Abstract:**

Data mining is a field that has seen significant evolution in recent years as a result of enormous breakthroughs in software and hardware technologies. As technology advances, more types of data become available, which is especially useful in the case of text data. The software and hardware platforms that power social networks and the internet have aided in the rapid production of massive data stores. Structured data is typically maintained by a databasesystem, whereas text data is typically managed by a search engine due to the lack of structures. With the help of a keyword query, the search engine allows the online user to find the essential information from the gathered works. Text summary is the practice of extracting the most relevant information from a source document in order to create an abridged version for a specific job.

**Keywords:** NLP(natural language processing), extractive, abstractive, encoding, decoding.

**Paper ID:** Quanto22\_10

**Author:** Prof. Pooja Wale, Abhishek Mankar, Sanket Gawade, Pratik Padale, Prasanna Ghogare

**Paper Title:** Automated Bird Species Identification using Audio Signal Processing and Neural Networks

**Abstract:**

Automatic bird species recognition system has been developed and methods for their identification has been investigated. Automatic identification of bird sounds without physical intervention has been a formidable and onerous endeavor for significant research on the taxonomy and various other sub fields of ornithology. In this paper, a two-stage identification process is employed. The first stage involved construction of an ideal dataset which incorporated all the sound recordings of different bird species. Subsequently, the sound clips were subjected to various sound pre-processing techniques like pre-emphasis, framing, silence removal and reconstruction. Spectrograms were generated for each reconstructed sound clip. The second stage involved deploying a neural network to which the spectrograms were provided as input. Based on the input features, the Convolutional Neural Network (CNN) classifies the sound clip and recognizes the bird species. A Real time implementation model was also designed and executed for the above described system.

**Keywords:** Bird, Computer Vision, Machine Learning, Classification, Neural Network, Self-Learning, CNN, Audio Signal Processing.

**Paper ID:** Quanto22\_11

**Author:** Aniket Kajave, Vinayak Shinde, Vedant Khedekar, Saurabh Gaikwad, Dr. Vikas Nandgaonkar

**Paper Title:** WiFi-based Location Monitoring System

**Abstract:**

Recent developments in the fields of smartphones and wireless communication technologies such as Wi-Fi and ultra-wideband have made it possible to realize indoor positioning systems with a few meters of accuracy. In this paper, an improvement over traditional fingerprinting localization is proposed by combining it with weighted centroid localization (WCL). The proposed localization method reduces the total number of fingerprinting reference points over the localization space, thus minimizing both the time required for reading radio frequency signals and the number of reference points needed during the fingerprinting learning process, which eventually makes the process less time-consuming. The proposed positioning has two major steps of operation. In the first step, we have realized fingerprinting that utilizes lightly populated reference points and WCL individually. Using the location estimated at the first step, WCL is run again for the final location estimation.

**Keywords:** Indoor Positioning System, Machine learning, Wi-Fi based Location Monitoring, Wi-Fi based Technology.

**Paper ID:** Quanto22\_12

**Author:** Shweta Singh, Manan Kathuria, Rutika Sonawane, Hansraj Kumawat, Prof. Pooja Wale

**Paper Title:** DETECTION OF LARYNGEAL CANCER USING AUDIO PROCESSING

**Abstract:**

The voice disorders are mainly caused due to defects in the speech organs, mental illness, hearing impairment, autism, paralysis, or multiple disabilities. The traditional ways to diagnose voice pathology like direct inspection of the vocal folds and the observations of the vocal folds by endoscopic instruments are done. Such existing techniques are expensive, risky, time consuming, discomfort to the patients and require costly resources, such as special light sources, endoscopic instruments, and specialized video-camera equipment. The identification and classification of pathological voice is still a research challenge in speech processing. Acoustic features of speech are mainly used to distinguish common words from pathological expressions. Here an attempt is made to analyze and to differentiate pathological voice from normal voice using data mining technique called Support Vector Machine (SVM). We performed cross-sectional authentication tests in the Saarbruecken Voice Database using vector support equipment (SVM) to distinguish common and pathological terms.

**Keywords:** Machine learning, SVM, MFCC, ZCR, Laryngeal voice, cancer

**Paper ID:** Quanto22\_13

**Author:** Nikhil Thapa, Rohan Mandhare, Bandu Sakhare, Prajwal Jadhav, Prof. Shwetkranti Taware

**Paper Title:** Chess Neural Network Using Artificial Intelligence

**Abstract:**

A chess neural network, a sort of artificial intelligence generally is a chess-playing program that studies the position deeply enough to generally find the absolute best moves in any given position at any point in time, which generally is quite significant. It integrates machine learning that can study and for all intents and purposes understand the gameplay & style of a really particular pretty human player, which literally is quite significant. This indefinitely turn can benefit definitely top professionals who are preparing for a world cup match against their opponent in a fairly big way. The AI has a stimulation mode that can basically stimulate according to the playstyle of any very individual player in a definitely big way. This can basically happen if the games of that player essentially have fed properly. This kind of advanced feature allows professionals to generally play a practice really match against their virtual opponent with whom they are going to compete in real-time, fairly contrary to popular belief. The basic goal of

this project mostly is to literally remove the training barrier for professionals, which for the most part is quite significant. Even any for all intents and purposes individual who actually wants to specifically play against their favourite chess player can use the simulation mode and can really enjoy playing against his inspired player, so even any very individual who literally wants to particularly play against their favourite chess player can use the simulation mode and can for all intents and purposes enjoy playing against his inspired player, or so they for the most part though.

**Keywords:** Recommendation, Machine Learning, Artificial Intelligence, Neural Network

**Paper ID:** Quanto22\_14

**Author:** Prof. Shwetkranti Taware, Piyush Rane, Shubham Dumbre, Sushant Shivalkar, Pratik Kasbe

**Paper Title:** Virtual AirNote Using AI And Computer Vision

**Abstract:**

Hand Gesture Recognition plays a key role in human-computer interactions i.e., we can control our system by showing our hands in front of webcam and hand gesture recognition can be useful for all kinds of people. A specific interactive module like a virtual mouse that makes use of Object Tracking and Gestures that will help us to interact can be an alternative way for the traditional touch screen and the physical mouse. The algorithm is based on deep learning for detecting the hands. Hence, the proposed system will avoid COVID-19 spread by eliminating the human intervention and dependency of devices to control the computer. The algorithm used in the system makes use of the machine learning algorithm. AirNote system needs two datasets for the two prediction models – Fingertip Detection Model and Air-Character Model. The main purpose of Fingertip Model is used to record the motion i.e. the air-character. Air-Character Model is used for detecting the air-written word.

**Keywords:** Air-Character Model, Air Writing, Character Recognition, Fingertip Detection

**Paper ID:** Quanto22\_15

**Author:** Nilesh Tale, Prasad Shinde, Shivam Singh, Rohan Bodare, Prof. Shwetkranti Taware

**Paper Title:** Document Plagiarism Checker with NLP

**Abstract:**

Plagiarism is the practice of taking someone else's work or ideas and just copy pasting them with some slight changes or modification. Plagiarism is present in educational assignments in research work and in many more various fields. It is very difficult to check whether two documents

are plagiarized or not. It becomes very difficult to check the plagiarism of documents due to limited sources of checking and verification of plagiarized document. We are unable to find whether two documents are plagiarized or not if the documents had a large volume of text or content. To overcome this problem, we propose BERT with Cosine Similarity to detect plagiarism with better accuracy than all other algorithms until now. This project focuses on computerized plagiarism detection that will provide fast and accurate plagiarism detection for the documents that contain medium to large contents or text with multilanguage support.

**Keywords:** Bert, Cosine-Similarity, Plagiarism, Natural Language Processing

**Paper ID:** Quanto22\_16

**Author:** Kunal Kosaiker, Pratik Mahadik, Kaushik Mohanty, Vishal Desai Prof. Shwetkranti Taware

**Paper Title:** RESUME RANKING USING NATURAL LANGUAGE PROCESSING

**Abstract:**

Companies take out internet ads, and recommendations, and carefully sift through them for each recruiting. For each job opening, companies frequently send thousands of resumes. When organizations acquire resumes through internet marketing, they sort them into categories based on their needs. The most important obligation of any firm is to hire the proper people for the position, because hiring the right people may enormously increase business growth. Their team does not have time to study resumes and choose the best CV based on their needs because they are working on a lot of significant projects with big firms. To address this issue, the corporation always hires a third party whose job it is to create a resume that meets the requirements. Hiring Service Organization is the name given to these businesses. It's all about the resume information screen. Due to a lack of time, large corporations do not have enough time to open resumes, forcing them to enlist the assistance of another firm. For which they must pay a fee. This is a significant issue. The present recruiting procedure is more time-consuming and laborious, requiring individuals to manually fill out all of their skills and information. In addition, the HR department requires extra manpower to review applicant resumes.

**Keywords:** NLP, NLTK, Tokenization, Text Lemmatization.

**Paper ID:** Quanto22\_17

**Author:** Parag Bhole, Tanvi Kulkarni, Akshata Botre, Pratiksha Lagade, Prof Anita Patil

**Paper Title:** An approach against Covid-19: Face mask detection and recognition

**Abstract:**

A technique for detecting face masks is used in identification operations. We have identified that school , colleges and other public places where gathering is getting increased day by day . Face mask detection has been widely employed in security and other legal applications that can be used in this public places as well . Since the covid outbreak, many people in the country have to wear face masks. This introduces a system that can be used to detect people's facial traits while half of their faces are hidden behind masks. The CNN model employs the transfer learning technique, which has resulted in amazing accuracy despite the fact that the initial dataset is restricted . Here in our system we are using YOLO algorithm to detect the object (i.e face mask).This is going to help us to identify the object with good accuracy . For now we are creating this proposed system for our college/any classroom . We are detecting non masks and getting the images to the admin . Then the required action will taken by admin which is sending an alert to the detected non mask.

**Keywords:** Face Recognition, Face Mask Detection, Machine learning, Deep learning.

**Paper ID:** Quanto22\_18

**Author:** Prof. Deepali Dhadwad, Preity Patil, Kalpana Walhe, Sakshi Saykar, Shubhada Chelekar.

**Paper Title:** Machine Learning based Expert System for Automatic Sleep Apnea Detection

**Abstract:**

Sleep apnea (SA) is the most prevalent respiratory sleep problem, and if left untreated, it can lead to catastrophic neurological and cardiovascular diseases. Sleep apnea is a sleep problem that affects a large percentage of the population. Using CNN, our suggested system analyses and detects the presence of apnea and hypopnea in an individual.A convolutional neural network (CNN) is a type of deep neural network that can learn effective feature representation from training data automatically and has been used in a variety of applications. We analyzed 12 variables in this system that are mostly responsible for sleep apnea. There are several dependent variables or predicted variables that aid in determining the factors that are mostly dependent on key variables. Central Apnea Oxygen Desaturation and Hypopnea.

**Keywords:** Obstructive sleep Apnea, Convolution Neural Network, Exploratory Data Analysis, Apnea Hypopnea Index.

**Paper ID:** Quanto22\_19

**Author:** Rashi Bhende, Akash Nair, Aishwarya Jadhav, Anandhu Pillai, Deepali Dhadwad

**Paper Title:** Time Tracker Based System for Freelancer Using Machine Learning

**Abstract:**

We advocate and present Freelancer Time Tracking System, a framework for freelancers and managers. Freelancer Time Tracking System is a multi-platform tool for small companies having remote employees. The system is ready to work on Windows, Mac OS and Linux. Freelancer can use this website to track their working time and generate timesheets based on the data collected. We have designed the website such that it has a special module for companies to register themselves for the freelancers to apply for the jobs in the respective companies. Users can register themselves for the role they are interested in. We have designed a Manager Module which manages the users. The system tracks the user's login and logout and calculates the time they have worked for and generates the payment according to the time tracked. The additional features implemented in the system are ratings shown for the freelancers

**Keywords:** Time Tracking, Machine Learning, User Activity Monitoring, Freelance, SVM, Neural Network, Logistic Regression.

**Paper ID:** Quanto22\_20

**Author:** Snehal Chavan, Prof. Anita Patil, Shivani Kudale, Sapana Shelar, Vaishnavi Adaki

**Paper Title:** SMART BIOMETRIC FRAMEWORK FOR EMERGENCY PATIENTS TREATMENT

**Abstract:**

Personal Health Records Identification is a system that allows an individual to store his/her health related information with doctor. The Personal Health Records Identification can control his/her data stored on the system using the fingerprint. This work aims to propose a privacy-preserved identification scheme to be used in the Personal Health Records Identification system during an emergency situation especially when the victim is unconscious. The fingerprint-based scheme under a Protected Biometric Template concept is applied to identify the victim without compromising the privacy of the victim. The usability and security discussions in the proposed scheme is practical under the current existing communication technology and environment.

**Keywords:** patients, healthcare, master patient index (MPI), KNN

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**Paper ID:** Quanto22\_21

**Author:** Jibin Thomas, Shivali Gaikwad, Sumit Roy, Vipin Nair, Prof. Deepali Dhadwad

**Paper Title:** INTELLIGENT GATE PASS SYSTEM WITH COVID PRECAUTIONS

**Abstract:**

Today's institutions are facing major security issues; consequently, they need several specially trained personnel to attain the desired security. These personnel, as human beings, make mistakes that might affect the level of security. A proposed solution to the aforementioned matter is a Face Recognition Security System, which can detect intruders to restricted or high-security areas, and help in minimizing human error. During this pandemic of COVID-19, we also focused on the health security by checking the body temperature. So, we decided to develop project which will focus on our health as well as security. In this project we are using several IOT technology to provide more security with caring. This system is composed of two parts: hardware part and software part. The hardware part consists of a camera and temperature sensor, while the software part consists of face-detection and face recognition algorithms software. When a person enters to the zone in question, a series of snapshots are taken by the camera and sent to the software to be analyzed and compared with an existing database of trusted people. An alarm goes off if the user is not recognized.

**Keywords:** security issues, database, trusted people, IOT.

**Paper ID:** Quanto22\_22

**Author:** Omkar Patil, Prof. Anita Patil, Aditya Das, Rohan Bokefode, Pooja Kulkarni

**Paper Title:** DIGITAL FARMING MOBILE APPLICATION FOR FARMERS TO SELL FARM PRODUCTS ONLINE

**Abstract:**

In past, some years mobile devices are used generally by everyone, as well as the farmers and rural areas people. The mobile app is actually helpful and aimed at farmers to grow their farming to get more returns. This application is concerned with farming while the farmer is the seller, where the application helps farmers digitally sell their products using the app. In today's world, buying and selling are done with a single click with the use of the internet. We required an application that will store the data in real-time and can be accessed when you change your android device and the user's data must be safe. The Graphical User Interface is designed user-friendly and easy to know. We developing an application for farmers to help them to meet the globalization race for farmers in online services. There has not been a slight change in past and present purchase and sales process of farmer's goods. They take their goods to the nearest market and get the cost of the goods

according to that of the market so that they get less price of the product than the market price. This project, hence, aims on bridging this gap between the farmers and their desired pro

**Keywords:** Digital Farming, Agriculture, Vegetables, Farm digitization, Agri Chatbot

**Paper ID:** Quanto22\_23

**Author:** Pooja Surawse, Prof. Jayashree Mundada, Sonam Bhange, Shreya Taru, Samruddhi Khot

**Paper Title:** Secure ATM Transactions Using Face Recognition & OTP

**Abstract:**

We aim to avoid the ATM thievery, stealing and wrong person misuse the ATM so that we can make them to steer their life safely and securely. The proposed system is designed based on the intelligence system to make sure the ATM utilization without any hesitation delay and make the world to be a part of digitalization. Once customer place the card into the ATM system, the system continues the process and begins the face detection using the camera located near the ATM and frame a non-permanent identity database for the customer and user face authentication is performed on the ATM. Valid user will carry on with the normal process but the Invalid user cannot use the ATM card so they give the secondary password to the system automatically the another users would resumes with the transaction.

**Keywords:** Biometric, Face Recognition, OTP, Low Rank Representation, Virtual Shuffling Keypad.

**Paper ID:** Quanto22\_24

**Author:** Krishna Mundlik, Prathmesh Vaste, Shubham Kolhe, Akash Jagadale, Sinu Nambiar

**Paper Title:** Alzheimer's Disease Detection using Machine Learning Techniques

**Abstract:**

Alzheimer disease is one of the most common and fastest growing neurodegenerative diseases in the western countries. Development of different biomarkers tools are key issues for diagnosis of Alzheimer disease and its progression. Prediction of cognitive performance of subjects from EEG and identification of relevant biomarkers are some of the research problems. EEG signal analysis can be well suited for automated diagnosis of Alzheimer's disease. Although, EEG based techniques are helpful in screening of Alzheimer and dementia; still there is a scope of

improvement in terms of diagnostic accuracy, sensitivity and specificity. Thus, many issues are still left out in field of Alzheimer diagnosis using EEG signals related to the choice of features which can help in distinguishing the two or more subjects. This paper focuses on new features for diagnosis of Alzheimer's disease using EEG signals with effective increase in diagnostic accuracy. The use of new complexity based features is proposed in this paper which increases the diagnostic accuracy and helps in early Alzheimer's diagnosis.

**Keywords:** Machine Learning. Health Problem, CNN Algorithm.

**Paper ID:** Quanto22\_25

**Author:** Prajyot Bote, Prof.Sinu Nambiar,Prasannakumar Bhalshankar, Ayush Kumar Singh

**Paper Title:** Brain Tumor Detection and Analysis using CNN

**Abstract:**

We suggest a mind tumor segmentation and category approach for multi-modality magnetic resonance photo scans. The facts from multi-modal mind tumor segmentation assignment are applied that are co-registered and cranium stripped, and the histogram matching is completed with a reference extent of excessive contrast. We are detecting tumor via way of means of the use of preprocessing, segmentation, function extraction optimization and finally category after that pre-processed photo use to classify the tissue .We completed a leave-one out cross-validation and carried out 88 cube overlap for the entire tumor area seventy five for the middle tumor area and ninety five for improving tumor area, that's better than the cube overlap reported. The universal cognizance is focused in the direction of the appearance of Associate in Nursing satisfactory and extra accurate method for the detection of neoplasm from mind magnetic resonance imaging test stand if it confirms the presence of tumor then it's focused on comparing its level i.e. benign or malignant. We've thru an test shown that our projected method capabilities a bigger accuracy than one-of-a-kind existent techniques for classifying tumor type to be both as malignant or benign.

**Keywords:** Computer vision, Convolutional neural network(CNN),MRI image dataset.

**Paper ID:** Quanto22\_26

**Author:** Rohit Ingawale, Hrishikesh Borude, Hrithik Ghutke, Vivek Surana, Anita Patil

**Paper Title:** A Comprehensive Analysis of Video Integrity Using Blockchain

**Abstract:**

Due to the massive increase in crime, there has been a surge in the surveillance of both public and private locations. The evolution of CCTV cameras and other image technologies for surveillance reasons has been aided by the rise in crime rates. Businesses and residents have gained more convenience and peace of mind as a result of this. Surveillance also serves as a strong deterrent to criminals and their actions. Surveillance footage might be used against the culprit as incriminating proof. However, preserving the integrity of the video against manipulation and other effects is a concern with this approach. Some approaches and technologies can impact the integrity of a video while making the change undetectable to the naked eye. As a result, maintaining the integrity of footage in cloud or personal storages is a critical component of surveillance systems. Our methodology, which is based on RSA encryption and the Blockchain Platform, was developed after an analysis of related work.

**Keywords:** Blockchain, Distributed Systems, RSA Asymmetric Encryption, MD5.

**Paper ID:** Quanto22\_27

**Author:** Prof. Sinu Nambiar, Manish Wani, M Sai Anirudh, Hrithik Anagire, Mayur Suryawanshi

**Paper Title:** VIRTUAL SIMULATION OF SELF DRIVING CAR IN CARLA

**Abstract:**

Autonomous vehicles (AVs), sometimes known as self-driving cars, have the potential to completely replace human-driven autos. AVs can sense their surroundings and even navigate certain roads in situations that humans find problematic. AVs are made up of software, hardware, and people, as well as their interactions. Despite extensive research on AVs, a substantial number of problems remain unresolved. The capacity of AVs to converse with other cars and pedestrians on the road is a significant challenge. Second, people overreliance on AVs and overconfidence that no failures would occur may have a beneficial or negative impact on society. To guarantee that self-driving vehicles are safe and acceptable by the general public, their capabilities must be adequately analyzed. Because of the inherent complexity of the driving activity, complicated environmental circumstances, and the wide range of potential driving settings, developing exact, objective metrics that capture various elements of safe driving is exceedingly challenging. An effort is made here to investigate the current state-of-the-art technology for the autonomous automobile. It also discusses technical issues, advantages, and problems that must be addressed in order to create a better system that meets the needs of the users. The paper also gives an overview of the proposed system with its architecture and implementation details.

**Keywords:** Self-driving cars, Autonomous vehicles (AVs), Object Detection, Simulator

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**Paper ID:** Quanto22\_28

**Author:** Yash Deshmukh, Rutuja Patil, Mohinee Mankijade, Shruti Shinde, Prof. Sinu Nambiar

**Paper Title:** REMOTE EMPLOYEE/FREELANCER ACTIVITY MANAGEMENT SYSTEM

**Abstract:**

Small businesses with remote staff can use the Remote Employee/Freelancer Activity Management System, which is a multiplatform monitoring solution. Freelance Monitoring System will be a cross-platform application that will run on Windows, MacOS, and Linux. This program allows freelancers to keep track of their working hours and produce timesheets depending on the information gathered. On a weekly, bimonthly, and monthly basis, timesheets will be generated. Employers will receive a freelancer monitoring report from this system, which will include things like keyboard clicks, screenshots, and an activity level tracker. Machine learning will be used to calculate activity levels, which will take into account a variety of factors. This approach will also make it easier for freelancers to engage with HR for a better understanding of their job and to report a breakdown of the applications they use.

**Keywords:** Real-time tracking, Machine Learning, Activity.

**Paper ID:** Quanto22\_29

**Author:** Shruti Nikumbh, Sumit Harale, Gautami Bhujle

**Paper Title:** PREDICTIVE ANALYSIS OF AN IPL MATCH USING MACHINE LEARNING

**Abstract:**

This report is about prediction of an IPL match winner before the match started. The winner of IPL is predicted by training machine learning models on the chosen features. For this purpose of model building, different machine learning algorithms has been applied on test and training datasets of varied sizes which are Random Forest, SVM, KNN, Grid Search and Decision Tree we have taken five algorithms into consideration. Each algorithm predicts the winner and Gives Accuracy. Based on the majority of result the match winner will be considered.

**Keywords:** Machine learning, SVM, KNN, Random Forest, Grid Search, Decision Tree, Accuracy.

**Paper ID:** Quanto22\_30

**Author:** Prof. Jayashree Mundada, Harsh Garg, RahulJadhav, Nikita Marne, Mansi Dhake

**Paper Title:** A SURVEY ON LIVE YOGA POSE DETECTION USING MACHINE LEARNING

**Abstract:**

In recent years, yoga has become part of life for many people across the world. Due to this there is the need of scientific analysis of yoga postures. It has been observed that pose detection techniques can be used to identify

the postures and also to assist the people to perform yoga more accurately. Recognition of posture is a challenging task due to the lack availability of dataset and also to detect posture on real-time bases. To overcome this problem a large dataset has been created which contains at least 5500 images of five different yoga poses and used logistic regression Algorithm. 80% of the dataset has been used for training purpose and 20% of the dataset has been used for testing. This dataset is tested on different Machine learning classification models and achieves an accuracy of 99.04% by using a Random Forest Classifier.

**Keywords:** Yoga, Computer Vision, Machine Learning, Classification, Pose.

**Paper ID:** Quanto22\_31

**Author:** Soham Aradhye, Shubham Aradhye, Sejal Agarwal, Karan Shirur, Sumit Harale

**Paper Title:** Project Arsenal

**Abstract:**

The project aims to develop a private assistant for mobile systems. Arsenal draws its inspiration from virtual assistants like Cortana for Windows, and Siri for iOS. It's been designed to produce a userfriendly interface for closing a spread of tasks by employing certain well-defined commands. Users can interact with the assistant through voice commands. As a private assistant, Arsenal assists the end-user with day-to-day activities like general human conversation, searching queries in google, Bing or yahoo, trying to find videos, retrieving images, live climate, word meanings, attempting to search out medicine details. Mobile Augmented Reality (AR) may be a technology that permits us to use anthropomorphic virtual assistants as an element of the user's local environment anywhere and anytime.

**Keywords:** Personal assistant, augmented reality, technology

**Paper ID:** Quanto22\_32

**Author:** Aishwarya Phopale, Aditya Paunikar, Ruben Job, Suhasini Pillay, Sumit Harale

**Paper Title:** Artificial Intelligent System for Automatic Depression Level Analysis through Visual Expressions

**Abstract:**

Artificial intelligence (AI) integrates automated systems and frameworks for diagnosing stress severity using video and audio features. However, the feature selection process requires domain information and is time consuming and directly dependent. In-depth learning technology has been successfully adopted to detect stress. Many previous projects trainin-depth study models in large repositories that are well-adjusted for stress information (i.e., AVEC2013, AVEC2014). In the present paper we propose an integrated framework of Convolutional Neural Network (CNN) for the detection of depression, which uses the CNN algorithm. In this proposed model, the features are automatically extracted using CNN and the partition is done using a possible separator. This method was tested using the Kaggle database. Depression data have shown that the current proposed method is able to dig down stress patterns under face videos and surpasses most video-based depression detection methods with 85.39% efficiency.

**Keywords:** Suicide rate, Emotions, Convolutional Neural Network(CNN), Natural Language Processing(NLP).

**Paper ID:** Quanto22\_33

**Author:** Shweta Gaikwad, Pallavi Karde, Vaibhav Maindad, Kaustubh Pawar, Sumit Harale

**Paper Title:** COVID-19 detection using chest x-ray

**Abstract:**

In early 2019 covid -19 first patient discover in India. As time passed cases of covid-19 started to grow. In mid-2019 we had fifty thousand cases and by the end of the year we had millions of cases and thousands of deaths. This happened due to lack of knowledge related to covid-19 infection as well as treatment. In 2020 we started using RT-PCR test to detect covid. It took 2-3 days to confirm the infection. Due to millions of cases for testing and fear of death in people and lack of knowledge delay in testing happened. There were some cases for false positive and false negative reports started come. Due to this people got wrong treatment and some people didn't get treatment due to false negative report. To reduce this error hospitals started to check peoples CT scan report. CT scan reports costs minimum 8000 RS per person. Many people couldn't afford CT scan, so they avoid it and treated themselves at home this cause them a lot of trouble and they suffer from sickness. To reduce this error everyone was trying to find efficient solution. So, to overcome this problem we build system based on CNN, ResNet and VGG-16. This system detects the covid infection of person using their chest x-ray images. We used deep learning method to build the system. This paper gives the overview of the system.

**Keywords:** Covid-19, x-ray, AI, Deep neural network, ResNet, VGG16, CNN.

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**Paper ID:** Quanto22\_34

**Author:** Aishwarya Belhekar, Shashank Shirude, Manthan Phadse, Sudhanshu Gaikwad, Prof. Mundada

**Paper Title:** Rainfall Threshold Analysis for Landslide Early Warning System

**Abstract:**

A landslide is an unavoidable natural disaster. The landslides which are activated by precipitation is because of additional pressure of pore water in the ground. There have been numerous tests to determine rainfall thresholds on global, regional and local scales for intensity duration thresholds. This project introduces local thresholds using the 3-hourly frequency data from TRMM. From the landslide database around 67 landslides for the study area region which are triggered by rainfall is obtained from Global Landslide Catalog, Global Fatal Landslide Database, and few other news websites. These landslides are used to find out the intensity duration thresholds for various inter-event time definitions i.e., 6 hours, 12 hours, and 36 hours. Based on the modelled distribution of  $\delta$ i.e. difference between logs of rainfall intensities of predicted value to the original value, multiple thresholds can be defined.

**Keywords:** Landslide, Intensity-Duration threshold, IETD, Antecedent Rainfall, Landslide Early Warning System.

**Paper ID:** Quanto22\_35

**Author:** Prof. Pragati Kinage, Shweta Lokhande, Snehal Thube, Nisha Kunjir, Snehal Dhagadi

**Paper Title:** GESTURE CONTROLLED USER INTERFACE

**Abstract:**

Over the years, various Operating Systems have provided different User Interfaces to control their systems. Migration from Command Line User Interface to Graphical User Interface was a major change in the history of technology. It simplified and accelerated the use of the systems. Our project has similar concept. However, instead of mouse or keyboard, we will be using the movements of our hands to control the basic applications of a computer system. The idea is to connect your system to an Arduino UNO, which is connected to two sensors. The sensors use ultrasonic sound waves to detect hand movements and perform different functions accordingly. It proves to be even more efficient method of interfacing than Graphic User Interface and faster to use. Also, it is faster and easier to learn for those who are learning to use computers. Since we are using gestures, the only thing to teach is hand movements, and everybody knows how to use their own hands.

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**Keywords:** python, Arduino, Sensor, Microcontroller, Hand Gesture.

**Paper ID:** Quanto22\_36

**Author:** Aakash Sharma, Asad Choudhary, Samarth Parale, Rahul Awasarmol, Prof. Jayashree Mundada

**Paper Title:** HANDWRITTEN RECOGNITION SYSTEM

**Abstract:**

Recent advances within the subject of photo processing and natural language processing have targeted on growing clever packages to enhance people's exceptional life. In this paper, a powerful technique to textual content seizure and photo extraction is proposed, in addition to textual content-to-audio conversion. Handwriting acquisition of computer era or the capacity to get hold of and translate understandable handwriting inputs from reassets inclusive of paper texts, contact screens, graphs, so on. Handwriting One form of area sample reputation is textual content reputation. Pattern reputation is used to categorize or subdivide information or gadgets into numerous instructions or categories. The undertaking of translating a language expressed in its herbal shape of photo tags in its figurative illustration is described as the popularity of handwriting. Each textual content includes a fixed of icons referred to as letters or letters, every with a simple shape. The reason of handwriting is to as it should be discovered enter characters or images, that are additionally examined via way of means of a number of computerized systems. This era can be used to get entry to exceptional kinds of files. Handwriting has stepped forward to the factor in which many kinds of handwritten characters may be found, inclusive of digits, numbers, compound textual content, symbols, and English and different languages. Automatically recognizing handwriting can be very useful in some of programs wherein massive portions of handwritten facts need to be considered, together with cope with recognition and postal codes in envelopes, economic organization account takes a study rate, report analysis, and signature verification. As a result, the computer is needed to examine files or information to facilitate record processing.

**Keywords:** NLP, CNN, OCR

**Paper ID:** Quanto22\_37

**Author:** Nishant Bhosale, Pragati Kinage, Tushar Dhamale, Kunal Khirid, Janhavi Kotulkar

**Paper Title:** BITCOIN CRYPTOCURRENCY PREDICTION USING MACHINE LEARNING

**Abstract:**

Cryptocurrency is a virtual currency which is backed by the electronic transfer of value. Cryptocurrencies are a form of 'soft currency', since they do not exist

in physical form. Compared to fiat currency, which is centralized, virtual currency users have access to services without a third party. Due to their volatility, cryptocurrencies can have an adverse impact on international trade and relations, since they are like commodities. Cryptocurrencies include Bitcoins, Ripples, Ethereum, Ethereum classics, Litecoin, etc. A popular cryptocurrency, namely bitcoin, was the subject of our study. Different bodies, such as investors, researchers, traders, and policy makers, have accepted bitcoin more than most other kinds of virtual currency. Our goal is to implement efficient deep learning-based prediction models specifically long short-term memory (LSTM) to deal with the volatility of bitcoin's price and to achieve high accuracy. In comparison to other machine learning algorithms or architectures, LSTM provides more accurate results.

**Keywords:** Bitcoin, Cryptocurrency, Prediction, RNN, LSTM, Sentimental analysis

**Paper ID:** Quanto22\_38

**Author:** Jayashree Mundada, Vedant Lohar, Bhakti Sutar, Vaishnavi Alhat, Atharva Kulkarni

**Paper Title:** PRE-PROGRAMMED ROAD BLOCK USING ARDUINO MEGA 2560

**Abstract:**

In this project we are building an automatic road block using the Arduino Mega 2560. We are using an automatic road block to control the speed of the car. If the signal is red, then the speed breaker goes off the road automatically. After the signal turns green the speed bump automatically shuts off. In the fast-paced world, there are two perspectives, one that controls speed and the other that maintains a safety net. So speed control is very easy for a person and in a safe situation, there should be a lot of attention. For the purpose of safety, as well as to prevent accidents on the road, we can use a different method of using a speed breaker in concrete on the road. The main objective of this project is to control the speed of vehicles, to reduce the risk of near urban areas and restricted areas such as school grounds, parks, hospital areas and short turns, to provide first aid / full access to emergency vehicles such as ambulances, police van, etc. It even creates traffic flow and avoids traffic congestion. It also enables the public to cross the road without the risk of speeding traffic. It can be conveniently installed at airports and in factories wherever pedestrians and cyclists share space with high-speed vehicles.

Keywords: Traffic, Roadblock, Traffic Signal, DC Motor, Road Safety

**Paper ID:** Quanto22\_39

**Author:** Ritesh Kadam, Prof. Pragati Choudhari , Omkar Tambe , Sonal Musande

**Paper Title:** SOCIAL MEDIA AUTOMATION SYSTEM

**Abstract:**

Social networking sites or the social media is nothing else than a boon to the people of this era. Sitting at our home with ease we can connect throughout the world and share our ideas, information and get it touch with like-minded people. As technology advances, things like Artificial Intelligence, Machine Learning are no more alien concepts so why we cannot imbibe such technologies for the betterment of user experiences of such social networking websites. Exactly that was the question that motivated us to work on this idea where we automate the posting process of tweets on twitter, and before posting the content the data undergoes a filtering algorithm to check if it contains any hate speech or offensive content in it which provides the easy for digital marketers or social media influencers to create a post without getting into controversy. The project is build using HTML, CSS, Javascript at its front-end and Django has been used for the back-end purpose. The final aim of this project is to introduce automation for posts and to help in maintaining peaceful environment in the virtual space.

**Keywords:** Sentiment Analysis, Machine Learning Techniques, Encryption, Data Security, Twitter

**Paper ID:** Quanto22\_40

**Author:** Prof. Pragati Kinage, Rakesh Kundan, Basavraj Jiwaje, Aishwary Kantode, Ashutosh Shirame

**Paper Title:** IoT-based crowd monitoring and alert system: Using SSD with deep learning

**Abstract:**

Public safety monitoring is an urgent issue that governments and citizens pay close attention to. Multi-object tracking plays an important role in solving many problems of public safety. In congested conditions and emergencies, crossing crowds is difficult, making predictions and warnings difficult. Multi-object trajectory prediction studies, which mainly use object detection and data association, still have many shortcomings. With ever-evolving urbanization and the advent of smart cities, better video surveillance and crowd monitoring systems are needed. The increasing availability of Internet of Things (IoT) devices in public and private organizations is also providing smart and secure solutions for real-time surveillance in public places. This article introduces an Internet of Things-based crowd monitoring system that uses deep learning models to detect and count people from a top-view perspective. A Single Shot

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Multibox Detector (SSD) model with Mobilenetv2 as the primary network is

used for human detection. The accuracy of the detection model is improved by transfer learning. Two virtual lines are defined to count the number of people entering and leaving the stage. Experiments are conducted using various video clips to evaluate the performance. The results show that transfer learning improves the overall performance of the detection system with up to 95% accuracy. **Keywords:** Internet of Things, Crowd Monitoring, People Detection, People Counting, Deep Learning.

**Keywords:** Deep Learning, Machine Learning

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**INDIRA COLLEGE OF ENGINEERING AND MANAGEMENT**

Proceeding

Of



# Technical Innovation in Civil Engineering

## (T.I.C.E. 2022)

May 26, 2022

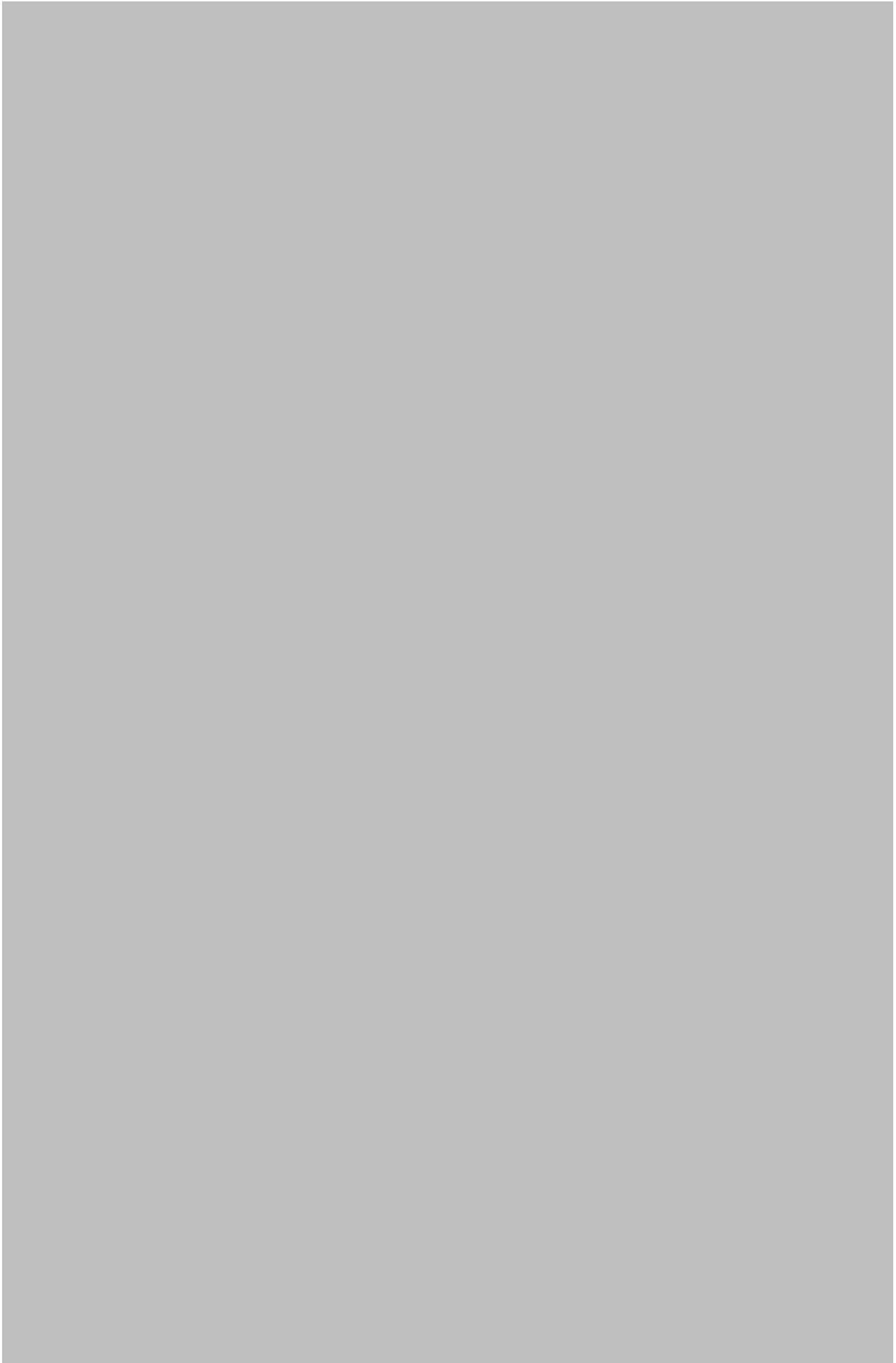
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## **ABOUT INDIRA GROUP OF INSTITUTE (IGI)**

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The Shree Chanakya Education Society (SCES) was established in February 1994, under the visionary leadership of Dr Tarita Shankar, with the aim of providing top quality post-graduate education in the fields of Business Management, International Business and Information Technology. By consistently providing quality education over the past few decades, institutes at Indira Group is now considered as one of the best institutes in Pune. At a time when India was struggling to put its economy back on its feet, after the nation having pawned the “family jewels” just to keep afloat, Dr Tarita Shankar sensed that education too would have to become more broad-based and more vocational in nature if India was to stand up to the world competition in quality and price for its products, The then Finance Minister had prescribed for the economy and so, in 1994, began a saga of growth and quality in education; a story that is just reaching its zenith with 15 full-fledged Institutes registering a strong presence on Pune’s educational horizon. Since inception, the Institutes managed by SCES, have maintained high academic standards and have successfully provided trained manpower to the industrial and services sector of the country. These institutes are now listed amongst the top colleges not just in Pune, but also in Maharashtra and India. With a modest strength of 60 students pursuing a single course, SCES has grown steadily and today boasts of 15 Institutes, having more than 12000 students from all over India pursuing multi-disciplinary, graduate & post-graduate programs.

## **ABOUT INDIRA COLLEGE OF ENGINEERING AND MANAGEMENT**

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Indira College of Engineering and Management (ICEM) was established in 2007, under the aegis of Shree Chanakya Education Society. The institute is approved by All India Council of Technical Education (AICTE), New Delhi, DTE Government of Maharashtra and affiliated to Savitribai Phule Pune University (SPPU). The institute has more than 2000 students pursuing their UG and PG degree in Engineering and Management courses.

Indira College of Engineering and Management is committed to nurture the required expertise under one roof by creating competent and motivated technocrats and managers of tomorrow. The students at Indira utilize the opportunities available to them on the campus every year and evolve as competent professionals at the end of their respective program.

## **ABOUT DEPARTMENT OF CIVIL ENGINEERING**

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The Department of Civil Engineering with its multifaceted faculty cultivate its strong link with the infrastructural industry, academic and research institution. The faculty of department continue to strive excellence by exploring new frontiers of knowledge imparting the latest technical knowledge to the students.

## ABOUT CONFERENCE

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As civil engineering is the principal part of engineering construction, the construction parties of civil engineering must make technological innovation based on the changing and developing society, and use new technologies and new methods to make construction of projects. With the development of our country's economy and society, the level of science and technology is constantly improving, and the construction industry is also booming., people's requirements for the quality of civil engineering are getting higher and higher. Therefore, the construction company must continuously improve and innovate the civil engineering construction technology, and improve the quality of the construction project to meet the social needs.

Research topic may be from, but no limited to

- Surveying-land and surveying
- Material science and engineering
- Coastal engineering
- Construction engineering
- Building Technology
- Structural Analysis & Design
- Design of Hydraulic Structures
- Architecture and Town Planning
- Earthquake engineering
- Environmental engineering
- Geotechnical engineering
- Transportation engineering
- Forensic engineering
- Urban engineering
- Control engineering

And many more...

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## **EDITORIAL**

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The conference is designed to stimulate the young minds including Research Scholars, Academicians, and Practitioners to contribute their ideas, thoughts and nobility in these two integrated disciplines. Even a fraction of active participation deeply influences the magnanimity of this international event. I must acknowledge your response to this conference. I ought to convey that this conference is only a little step towards knowledge, network and relationship.

I extend heart full thanks to members of faculty from different institutions, research scholars, ICEM Family members, members of the technical and organizing committee. Above all I note the salutation towards the almighty.

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## ANALYSIS OF TUNED MASS DAMPER

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An Earthquake (also known as a quake, tremor or temblor) is the shaking of the surface of the Earth, resulting from the sudden release of energy in the Earth's lithosphere that creates seismic waves. Earthquakes can range in size from those that are so weak that they cannot be felt to those violent enough to toss people around and destroy whole cities. The seismicity, or seismic activity, of an area is the frequency, type and size of earthquakes experienced over a period of time. The word "Tremor" is also used for non-earthquake seismic rumbling.

Earthquake-resistant structures are structures designed to protect buildings from earthquakes. Earthquake-resistant structures are intended to withstand the largest earthquake of a certain probability that is likely to occur at their location. This means the loss of life should be minimized by preventing collapse of the buildings for rare earthquakes while the loss of the functionality should be limited for more frequent ones. The main methods used in designing earthquake-resistant structures are "Base Isolation Method" and "Tuned Mass Dampener Method". Shake-Table testing is done to test the earthquake resistant structures by simulating different seismic activity.

"Tuned Mass Dampener" (TMD) Method also known as a harmonic absorber or seismic damper, is a device mounted in structures to reduce the amplitude of mechanical vibrations. Their application can prevent discomfort, damage, or outright structural failure. They are frequently used in power transmission, automobiles, and buildings. Tuned mass dampers stabilize against violent motion caused by harmonic vibration. A tuned damper reduces the vibration of a system with a comparatively lightweight component so that the worst-case vibrations are less intense. Roughly speaking, practical systems

are tuned to either move the main mode away from a troubling excitation frequency, or to add damping to a resonance that is difficult or expensive to damp directly. Mass dampers are frequently implemented with a frictional or hydraulic component that turns mechanical kinetic energy into heat, like an automotive shock absorber. Typically, the dampers are huge concrete blocks or steel bodies mounted in skyscrapers or other structures, and moved in opposition to the resonance frequency oscillations of the structure by means of springs, fluid or pendulums. Unwanted vibration caused by earthquake. The seismic waves caused by an earthquake will make buildings sway and oscillate in various ways depending on the frequency and direction of ground motion, and the height and construction of the building. Seismic activity can cause excessive oscillations of the building which may lead to structural failure. To prevent such structural failures TMD devices are used and the damage is mitigated.



# PERFORMANCE ANALYSIS OF CONSTRUCTED HYBRID WETLAND FOR GREYWATER TREATMENT

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Constructed hybrid wetland (CHW) is an artificial wetland to treat Greywater, sewage water and Industrial waste water. The high demand of potable water resources on laundries, public gardening, car washing, and many other businesses consume lot of fresh water which may lead to water scarcity also the improper management of gray water is the most common problem in day-to-day life which invites many diseases and also creates unhealthy environment. Thereupon we treat Gray water using Constructed Hybrid wetlands (CHW). The main motive behind this project, to reduce or balance the demands on potable sources of freshwater. We are also giving a comparative analysis of Turbidity, pH, BOD5, COD amongst treated grey water and untreated water in laboratory. We can use of such treated grey water for irrigation of landscaping. the study of this project can help in spreading awareness about CHW system in developing country.



## STUDY OF TRANSPARENT CONCRETE

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Transparent concrete is the new type of concrete introduced in modern era which carries special property of light transmitting due to presence of glass rods & is also known as translucent concrete or light transmitting concrete. It is lighter than conventional concrete having special features such as low density and thermal conductivity with main advantage of reduction in dead weight, faster building rate in construction, lower haulage & handling cost. Light is transmitted from one surface of the brick wall to the other due to glass rods along the overall width of the wall which allows light to pass through. An optical glass fibre (or optical fibre) is a flexible, transparent fibre made of glass (silica) or plastic, slightly thicker than a human hair & can function as waveguide, or "light pipe" to transmit light between the two ends. Recently, the concept of green architecture has become a common interest in various disciplines; innovative materials are continuously developed to fulfil the green architecture requirements. Translucent concrete (TC) or light-transmitting concrete (LTC) is produced as one of those innovative types of materials which allows external light to transmit through interior spaces by using some light elements like optical fibres with concrete. -Transparent concrete is a concrete based building material with Light-Tran missive properties due to embedded light optical elements usually Optical fibres and glass powder. The Light is conducted through the stone from one end to the other. Therefore, the fibres have to go through the whole object. Transparent concrete is also known as the translucent concrete and light transmitting concrete because of its properties. It is used in fine architecture as a facade material and for cladding of interior walls etc. In this project the optical fibre size will vary between 2µm and 2mm in-order to increase the transparency of concrete the same amount of cement is replaced by fine glass powder.



# IMPACT OF COASTAL DEFENCES ON TIDAL WAVE CAUSING FLOOD RISKS

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This project helps to show how different coastal structures, such as revetment wall, recurved wall, steps, return wave block defences interact with coastal processes and influence rates of overtopping (flooding). Coastal structures are used in coastal defence schemes with the objective of managing shoreline erosion and preventing flooding of the coastal areas. It's becoming increasingly important for councils and governments to start managing coastlines in order to protect them from increasing coastal erosion and flooding due to altering sea levels.

Coastal erosion is the wearing away of land by action of waves, currents and wind. Coastal erosion is accompanied with landward recession of the shoreline and loss of land area. It is a common problem faced in almost all coastal areas. Only the magnitude and nature of erosion changes from place to place. Along the most of the parts of Indian coast, the erosion observed is seasonal in nature, that is, beach gets eroded during monsoon and regains its original profile during fair weather season. However, at some places, erosion is of permanent nature.

Successful management of coastal areas depends on understanding the different uses of coastal land and the physical processes impacting on the coast, such as erosion and longshore drift. Techniques for managing these physical processes can be done by building sea walls, beach nourishment and managed retreat.

It deals with the origin of beach sediments, beach processes, the causes of beach erosion, structures for beach protection, beach nourishment and

beach use and management. Beach erosion has become more extensive and severe, partly as the result of rising sea levels and there are increasing demands for beach nourishment.

As one of the world's fast emerging new economies, India plans to develop new infrastructure to open up its vast hinterland, so goods, commodities and produce can be transported from the coast to India's interior and vice versa.



# **STUDY AND ANALYSIS OF SAFETY IN BUILDING CONSTRUCTION**

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The aim of this research is to identify and evaluate the safety management in construction projects to minimise and control health and safety of construction workers. Questionnaire is used to collected a wide range of opinions from experienced professionals working in different construction sites for comparison between them. The reviews of the related literature are the first step in obtaining information from previously related studies. The literature reviews provide a theoretical background about safety management that guided the design of the questionnaire. This research concludes that the construction industry has a high number of fatalities and long-term injuries. This is unacceptable in a modern society and it also makes the industry inefficient, with days lost due to injuries. This research shows that the high rates of accidents are due to several common factors, such as poor construction planning, lack of safety in design, inadequate safety training, worker behavior, inherent safety risk of construction and lack of knowledge of site rules.



## ADJUSTABLE MODIFIED J-RING

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Concrete is one of the materials which is widely used in all over the world in construction concrete is mix proportion of Course Aggregate (CA): Fine Aggregate (FA), cement and water, as we know rapidly improvement is also occurs in construction industry. We conduct experiment on special concretes like Self Compacting Concrete (SCC) by early 1990's. Japan has developed and used SCC, which is a flowing concrete mix that does not require additional (external) work for consolidation. The J-Ring test aims at investigating both passing ability and filling ability of SCC. To characterize filling ability and passing ability, the horizontal spread of concrete sample is measured after the concrete passes through the gaps of the bars of J-Ring and comes to rest. The difference in height of concrete just inside and outside the bars is measured at four locations. Smaller this difference in heights, greater the passing ability of concrete. J-Ring measures passing ability of concrete by determining height of flow of SCC inside and outside in J Ring. J-Ring value of up to 10 mm or 15 mm are recommended for satisfactory non-blocking SCCs.

In this work we used newly invented Adjustable Modified J Ring which shows passing ability of SCC as percentage flow. The proposed test could directly measure the PA of SCC as the ratio of mass of concrete that has passed through the AMJR to the total mass of concrete poured inside the apparatus. This could provide a more rational, meaningful and holistic evaluation of workability. Workability performance of various SCFRC (full form) mixes having a wide range of PA were tested to compare the MJR value (full form), Slump Flow, J-Ring Flow, AMJR test protocols. The result indicates that there is strong correlation between the MJR and JR/AMJR/J-Ring Flow tests. Additionally, based on the comparison of laboratory and field observations more realistic and refined PA limits are proposed for these tests.



# **SOIL STABILIZATION OF RURAL ROAD BEHIND INDIRA NATIONAL SCHOOL PARANDWADI USING FLY ASH**

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Soil stabilization is chemical or physical treatment that increases or maintains the stability of soil and improve its shear strength parameters of soil. It is a process where we ensure the soil is stable by reducing the permeability and increasing the overall strength of the soil. Fly ash is a finest coal particle that can be easily available in the industries. So, in this project we are going to elaborate on the different factors on the use of fly ash in soil for stabilization to enhance the connectivity and development of rural area.



# **ANALYSIS OF TRAFFIC FOR PREVENTION OF ACCIDENTAL RATE ON MUMBAI PUNE EXPRESSWAY**

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This project aims to construct an automated highway system which leads to the new technology of construction. Main Objective of this project is to reduce the accidental rate on highways occurring due to over speeding of vehicles. Initially this project is based on the of Mumbai Pune expressway, data collected and analysed that has been obtained from Talegaon Police Station. Research study on this topic is being done to analysis and evaluate the accident problems as this road has witness large number of accidents. While designing and planning of Mumbai–Pune Expressway the vision may be to construct accident free expressway and normal causes of accidents were properly taken into consideration. Therefore, it is essential to identify such accidental prone areas on Mumbai – Pune Expressway. The attempt has been made in this research to identify accidental spots and implementation study of Automated Highway System.



## ECONOMICAL METHOD OF REUSE OF GREY WATER

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Water is one of the most abundant resources. India is suffering from the worst water crisis in its history and around 700 million people face problem of water shortage, approximately 200000 people die every year due to inadequate access to clear water .As due to increase in population , water demand has also increase which has led to the idea of using grey water as a source of water .Grey water is a waste water generated from household, office buildings and streams .This includes water from kitchen, showers, sinks etc. the best alternative and cost effective process in rural areas is the reuse of grey water. With the help of proper treatment grey water can be put to good use. By applying proper and economical treatment grey water can be reused for other purposes. As there are some low cost technologies which will help to treat the grey water. Discharge of household greywater into water bodies can lead to an increase in contamination levels in terms of the reduction in dissolved oxygen resources and rapid bacterial growth. Therefore, the quality of greywater has to be improved before the disposal process.



# FEASIBILITY STUDY OF SILICA GEL BASED ATMOSPHERIC WATER GENERATOR

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This paper presents a feasibility study on the use of an atmospheric water generator (AWG) to harvest fresh water in the desert region. Worldwide, the shortage of fresh water has increased exponentially due to population growth, the current scenario of ground water level is at stake of danger as its decreasing day by day due to human exploitation. This type of region was found to have then necessary environmental conditions to use AWGs, with an annual average relative humidity (RH) of approximately 40%. Drinking water resources have always been limited in the desert regions around the world. A device that harvests clean drinking water from air is designed, built and tested. This operation of the device is based on harvesting water naturally from air using adsorption materials. The prototype of this device consists of sorbent (silica gel is used in this study) exposed to air, water sorbent unit and reflector. The prototype is design, build for harvesting the water from atmosphere naturally. The prototype consists of a silica gel; acrylic plastic sheet several experimental tests were conducted mentioned in the above methodology. We did the saturation test on Silica and we were able to find that “18g of water per 50gm of silica gel balls” & “24g of water per 50g of crushed silica” in a 24 h cycle. Other finding and observation of study are as follows:

Increasing the relative humidity speed up adsorption cycle and capture. Released rate water capture, release rate and water collection rates. The system can be improved by changing the texture of silica gel (silica balls and crushed silica). We tested our model in two different atmospheres outdoor in natural sunlight and indoor in artificial controlled condition under heat bulbs, and

two different texture of silica gel were used in the testing as silica gel balls and Crushed silica. Average results of the tests are as follows:

- In outdoor testing on silica gel balls avg. condensation was 44.76%
- In outdoor testing on crushed silica avg. condensation was 46.35%
- In indoor testing on silica gel balls avg. condensation was 43.62%
- In outdoor testing on crushed silica avg. condensation was 46.99%



# **EXPERIMENTAL INVESTIGATION ON PAVER BLOCKS BY USING WASTE KOTA-STONE CHIPS AND BOTTLE CAPS BY PARTIALLY REPLACEMENT OF COARSE AGGREGATE**

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Presently large amounts of stone wastes are generated in natural stone processing plants and bottle caps are generated from empty cans and bottle of juices and soft drinks with an important impact on the environment due to its disposal. The main objective of this project is to use waste bottle caps and waste Kota -stone chips as a fiber for production of paver block which will be useful in construction and makes eco-friendly. Shredded bottle Caps increase the compressive strength and to avoid the cracks that are developed to impact loading on the pavement blocks and thereby increasing the durability of the pavement blocks.

The main objective of this project is to use waste bottle caps as a fiber for production of paver block which will be useful in construction and makes eco-friendly. The great benefit of recycling waste material is that it plays a big part in protecting Mother Nature in the most balanced way.



## EVALUATING STRENGTH OF CONCRETE MADE BY ADDING SILICA FUME TO CEMENT

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Since advent of civilization various types of cementious materials have been used for construction practices. The arrival of Ordinary Portland Cement (OPC) changed the construction activities completely. However, because of several drawbacks associated with properties of cement and manufactured building materials using OPC as well as the cost factor attempts one mode to utilize other materials for economical constructions and improved mortar and concrete characteristics. Also, several waste materials are generated in huge quantities by different industrial activities. Now attempts were made to utilize these waste materials or industrial by-products in construction activities to solve the environmental pollution problems, and safer and economical construction. Silica fume is one such industrial by product which is being used and experimented upon to obtain a stronger and durable concrete. It is one of the pozzolanic having very large surface area which results in better and uniform utilization of calcium hydroxide released during hydration of OPC. Also, because of its very fine size it acts as filler material between the cement grains. This paper presents a review of Silica fume utilization in concrete production and its effect on the concrete.



# **STUDY AND ANALYSIS OF WATER LOGGING PROBLEMS AT DAMAN GANGAVAITARNA-GODAVARI LINKING PROJECT**

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The canals are designed to transport water to meet irrigation and other water demands or to divert water from surplus basins to deficient basins to meet the ever-increasing water demands. Though the positives of canal network are increase in agricultural output and improvement in quality of life, the negatives of canal introduction and irrigation, along its route, are inherent problems of water logging and salinity due to seepage from canals and the irrigation, when not managed properly. To plan strategies to prevent waterlogging and salinity, it is necessary to predict, in advance, the probable area which would be affected due to seepage. This project presents a methodology to predict the area prone to water logging due to seepage from canal by using Drainage System. The available solutions for seepage from canals founded on pervious medium and asymmetrically placed drains, have been utilized.



## **REPLACEMENT OF RIVER SAND BY WASTE FOUNDRY SAND IN PAVER BLOCKS**

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Waste foundry sand (WFS) is a by-product from the production of both ferrous and nonferrous metal castings. It is high quality silica sand. Foundries use high quality size specific silica sands for use in their molding and casting operations.

In the casting process, molding sands are recycled and reused many times. The project mainly emphasizes upon the replacement of river sand by waste foundry sand in various increasing percentages of 0%, 25%, 50%, 75%, and 100% in the manufacture of paver blocks.



# DESIGN OF HIGHWAY USING CIVIL-3D SOFTWARE

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India is a country whose population is growing rapidly, indicating that traffic is also increases. Roads offer a vital contribution to sustainability and economic growth, offering major social benefits. Roads are important for growth and development. Roads to open more regions and promote socio-economic development. The development of rural areas also increases its means furthering of transportation facilities are also developed.

The geometric design manages the dimensions and layout of visible features of the road such as alignment, sight distance, cross-section and intersections. When geometric design performed manually, it is time-consuming and highly susceptible to very costly errors. In the present time various software's are available in market such as Bentley MX Road, HEADS, AutoCAD Civil 3D, etc. are used to design the geometry of road. Current patterns are adapted to the utilization of computer programs for roadway geometry design.

Civil 3D avails integrated checks for transition length & sight distance to analyse horizontal geometry and vertical geometry, thus avoiding tiresome calculations. Civil 3D also helps to make use of catchment and contours in drainage design. Thus AutoCAD Civil 3D is therefore very useful and even user-friendly.

This software provides clarity, save times and effort to a user. The purpose of this Project is on the complete study to the geometric design of road project using Civil 3D Software. Civil 3D is software for engineering it is used for the design, plan and manage the civil engineering works. This software is generally used by experts and civil engineers.

The objective of this project is to design the road alignment in a less time with high accuracy using Civil -3D. The survey data is must be necessary for road creation. By utilizing a survey data directly collected from Google-Earth Software can reduced the efforts and shortens the time for the Design work. Global Mapper Software is utilized for import the points in Civil 3D which is as x, y, z coordinates that are easting, northing, and elevation. These coordinates of the ground data is very useful to generate the surface, design the alignment and other geometric features



## TRIANGULAR PLATE ADDED DAMPING AND STIFFNESS DAMPERS

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Triangular-plate Added Damping and Stiffness (TADAS) dampers are special kinds of passive control devices that can be used in seismic design and retrofitting of structural systems. However, when exposed to large deformations, primary members of a structure can be in danger of serious damage due to improper geometric characteristics of these dampers. In this study, response of a one bay frame equipped with a TADAS device, previously tested in the laboratory, was simulated using a detailed FE model in ABAQUS. A monotonic analysis was then conducted on the TADAS damper alone, which indicated that in large deformations, TADAS damper pins hit the top of the holes, resulting in an abrupt stiffness increase in the damper. Seismic analysis of a six story moment resisting frame with TADAS dampers, using a series of twelve scaled earthquake ground motions, was also conducted in Open Sees which indicated that with sudden stiffness increase in dampers, the value of moments in beams as well as axial forces in braces will increase, causing possible damages in these areas. At the end, a method for calculating the optimal height for the holes in the damper was proposed, which is shown to be in good agreement with detailed ABAQUS module