



Fourth International conference on
Communication and Information Processing

30 -31 July, 2022

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ICCIP 2022

Organized By

NUTAN MAHARASHTRA VIDYA PRASARAK MANDAL'S (NMVPM'S)

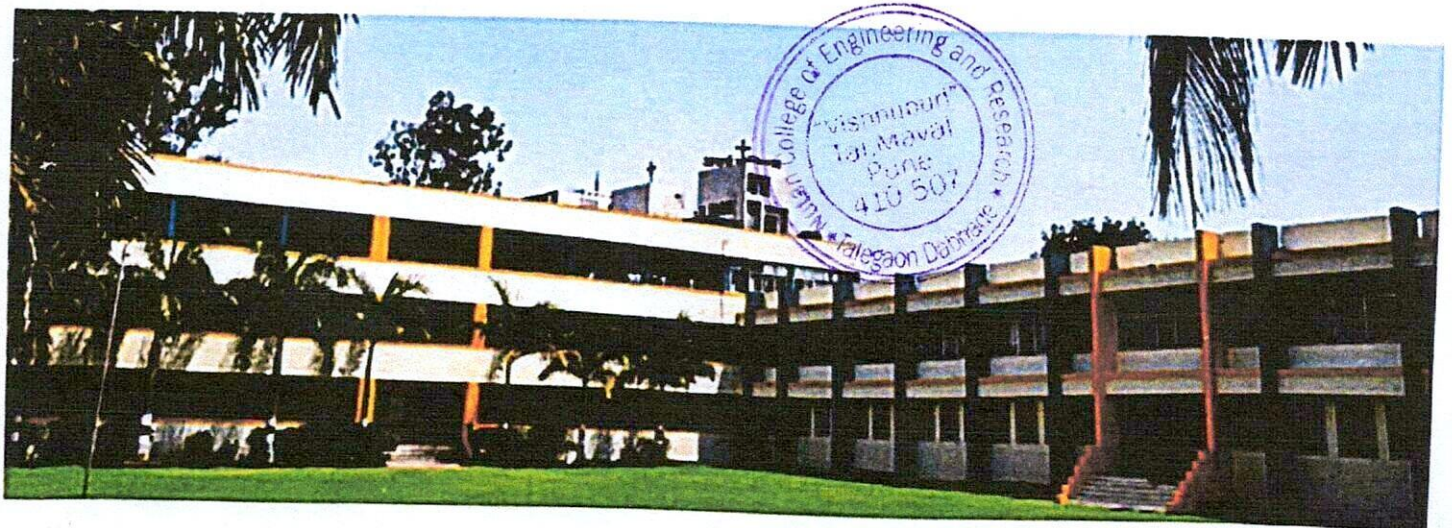
NUTAN COLLEGE OF ENGINEERING & RESEARCH (NCER)

TALEGAON DABHADE, PUNE - 410507, INDIA

Under Management Support of Pimpri Chinchwad Education Trust (PCET)

Approved By AICTE- New Delhi, Government of Maharashtra and DTE Mumbai

Affiliated To Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere



Our Inspiration



Lokmanya Bal Gangadhar Tilak

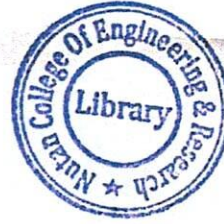


Annasaheb Vijapurkar





ESTD : 1906



Engineering Education through Modern Pedagogical Approach

Located in the Industry Hub of Talegaon MIDC with over 200+ MNCs like GM, Mercedes Benz, JCB, TetraPak and Close to Hinjewadi, Bhosari, Pimpri Chinchwad MIDCs

NUTAN MAHARASHTRA VIDYA PRASARAK MANDAL'S NUTAN COLLEGE OF ENGINEERING & RESEARCH (NCER)

Under Administrative Support of Pimpri Chinchwad Education Trust (PCET)

Approved by All India Council for Technical Education (AICTE) - New Delhi, Affiliated to Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere
ISO 21001:2018 (EDMS) Certified

About Us

Nutan Maharashtra Vidya Prasarak Mandal (NMVPM) was established in 1906. Shri Lokmanya Bal Gangadhar Tilak was the founder member of the Mandal and was the Chairman of its Governing Body for almost 12 years. The late Hon. Vishnu G. Vijapurkar was the first Secretary of "Samarth Vidyalaya" - the first national school started by the Mandal. NCER is an Industry and Skill based engineering college under the umbrella of NMVPM and Pimpri Chinchwad Education Trust established during the year 2018. The institute is a noted technical knowledge to the students. Extra-curricular activities are conducted at NCER to explore hidden talents of students. The curriculum is intended to bridge the gap between industry and academia through internships and project based learning. Due to its well thought out location of being situated at the commercial hub of Pune surrounded by MIDC area, chakan and hinjewadi, students get access to prime quality technical education through immersive industrial experiences. Within a span of 4 years the institute has attempted to excel within different aspects ranging from academics, project based learning, internship offers to placements.

B.Tech Courses

Duration 4 Years

DTE CODE:6419

Name of Course	Intake	Choice Code
Computer Science & Engineering	180	641924210
Computer Science & Engineering (Artificial Intelligence)	60	641991310
Electronics And Communication Engineering	60	641937010
Mechanical Engineering	60	641961210

Eligibility

HSC Passed with Physics and Maths as a compulsory subjects with Chemistry/Biology/Biotech /Technical vocational subject and Obtained at minimum 45% for Open & 40% for Reserve category students. As per the ARA

Summary of Placements

Sr. No.	Branch	Number of Students	Number of Eligible Students (60% throughout)	Total Number of Offers	Number of Single Offers
1	Computer	132	92	119	60
2	EnTC	14	07	05	05
3	Mechanical	59	41	28	28
4	Automobile	22	14	08	07
	Total	227	144	160	110

B.VOC Courses

Duration 3 Years Approved By AICTE | DTE | SPPU | DBATU

Name Of Course	Intake	Duration
Electronics Manufacturing Services	30	03 Years
Automobile Servicing	30	
Automotive Mechatronics	30	
Welding Technology	30	
Foundry Technology	30	

Eligibility

Eligibility : HSC/ 10+2 Passed with Arts / Commerce / Science or equivalent course or any Diploma Course (10+3) under MSBTE, Mumbai.

Central Placement Cell

(Maharashtra's Leading Placement Cell with a Renowned Legacy)

- Highest Salary Grabbed by NCER Student 13.5 Lacs P. A.
- Average Salary Grabbed by NCER Student 4.7 Lacs P. A.

25,220+ PLACEMENTS

720+ FACULTY

450+ PATENTS

3,500+ RESEARCH PAPERS

65+ ACRES 3 CAMPUSES

50,200+ ALUMNI

14,500+ STUDENTS ON CAMPUS EACH YEAR

1000+ RECRUITERS EVERY YEAR

Management Team:-

Souvenir Committee



Krutika



Dishant



Adarsh



Kamlesh



Tanaya



Stephen



Vinay



Pratik

Certificate Committee



4th International Conference on Communication and Information Processing 2022

ICCIP 2022 (30-31 JULY)

Organised By :

Nutan College of Engineering and Research (NCER)

<http://www.iccip2022.in/>



Payment Receipt Committee



Vaibhav



Hritika



Princy



Devarth



Sonu



Ketan

Media Committee



Ankita



Yash



Patron



Hon. Shri. Krishanrao
Bhegade
President, Ex. M.L.A.



Hon. Shri. Sanjay
Bhegade
Vice-president, M.L.A.



Hon. Shri. Santosh
Khandage
Secretary



Hon. Shri. Rajesh
Mhaske
Chairman, NCER



Hon. Shri. Nandkumarji Shelar
(Joint-secretary NMVPM)





Dr. Babasaheb Ambedkar Technological University

(Established by Government of Maharashtra and Governed by Dr. Babasaheb Ambedkar Technological University Act No. XXIX of 2014)
Vidyavihar, Lonere – Raigad 402 103 (Maharashtra)
www.dbatu.ac.in

Dr. S. B. Deosarkar
Professor and Officiating Registrar



It gives me an immense pleasure to know that the Fourth International Conference on Communication and Information Processing (ICCIP- 2022) is organized by Nutan College of Engineering & Research, Pune (Maharashtra)-India from 30th to 31st July 2022 under the aegis of Dr. Babasaheb Ambedkar Technological University, Maharashtra.

With the advent of new technologies in the field of Engineering and Management, it is necessary to bring all the scholars at one place to exchange varied methodologies in the discipline.

I am sure, this conference will benefit to the academicians, researchers, scientist, and policy makers of Engineering and Management. Further to it ICCIP 2022 undoubtedly provide the platform to showcase and recognize the outstanding research capabilities of the young researchers.

I express my sincere gratitude to the various Experts and Keynote speakers and Technical Program Committee for their erudite expertise. I must take this opportunity to congratulate the delegates and participants for their significant contribution at ICCIP - 2022.

I wish ICCIP - 2022 a Great Success!

Dr. S. B. Deosarkar





Nutan Maharashtra Vidya Prasarak Mandal's
NUTAN COLLEGE OF ENGINEERING AND RESEARCH

DTE Code- EN-6419

Under Administrative Support of Pimpri Chinchwad Education Trust
(Approved by A.I.C.T.E, New Delhi, Govt. of Maharashtra & Affiliated to DBATU, Lonere)
"Vishnupuri", Talegaon Dabhade, Tal-Maval, Dist-Pune-410507

Tel. (02114) 228175

Website: www.ncerpune.com Email: ncerpune@gmail.com



Krishnarao Bhegade (Ex.MLA)
President

Sanjay (Bala) Bhegade (MLA)
Vice-President

Santosh Khandge
Secretary

Dr. Girish Desai
Executive Director

Ref.No.: NCER/2021 -2022/

Date: 30/7/2022

General Chair's Message

It gives me immense pleasure to announce that the "4th International Conference on Communication and Information Processing (ICCIP-2022)" is organized by Nutan College of Engineering and Research (NCER), Pune from 30th to 31st July 2022.

NCER-started in 2018, is an industry and skill based engineering college which offers B.Tech. degree in Engineering and Bachelor of vocational degree (B.VOC). NCER provides practical & industry based learning and has MoU with 140+ industries.

This conference will provide a forum to academic researchers, practicing engineers and industry experts to present and discuss their recent work, technical advancement and new products. The thrust of the conference is to initiate a global discussion on the next generation technologies to ease the life of mankind, irrespective of their social and economical status. I am sure; this conference will benefit all the attendees. I express my gratitude to various experts and key note speakers for their scholarly expertise.

I am also grateful towards delegates and participants for their significant contribution in research papers. I am indeed thankful to the management of Nutan Maharashtra Vidya Prasarak Mandal (NMVPM), Pimpri Chinchwad Education Trust (PCET) and Dr. Babasaheb Ambedkar Technological University (DBATU, Lonere) for giving the opportunity to organize the international conference.

I wish, the conference a great success.

Dr. Girish Desai
Executive Director

PCET-NMVPM



The Conference

General Chair



Dr. Girish Desai
Executive Director, PCET-NMVP

Conference Chair



Dr. Lalitkumar Wadhwa
Principal, NMIET

TPC Coordinator



Dr. Brijesh Iyer
Dr. BATU, Lonere

Conference Chair



Dr. Aparna Pande,
Principal, Ncer



Preface

Dear Distinguished Delegates and Guests

Fourth International Conference on Communication and Information Processing (ICCIP-2022) is organized by Nutan College of Engineering and Research (NCER), Pune from 30th to 31st July 2022.

We take this opportunity to express our deep gratitude to the speakers of keynotes and invited talks for accepting our request to share their words of wisdom. We also thank the reviewers and session chairs for their support. Let us thank the authors and delegates for their contributions and presence.

We are extremely grateful to Hon. Shri. Krishnarao Bhegade, Shri. Sanjay Bhegade, Shri. Ganesh Khandge, Shri. Santosh Khandge, Shri. Rajesh Mhaske, Shri. Nandkumar Shelar for their patronage and support from time to time.

Thanks are due to the administrative staff of the University for their Support.

Finally, we have no words to thank all our colleagues, members of various committees, all the student volunteers, and research scholars without whose unflagging enthusiasm and diligent efforts, this conference would not have seen the light of day.

We pledged to take this conference series to the greater heights in the years to come with the aim to put forward the need based research and innovation. Thank you one and all.

Program Chair

Dr. Lalitkumar Wadhwa

Dr. Aparna Pande

Advisory Committee :

Prof. V. C. Bhavsar, University of
New Brunswick, Canada
Prof. Ajith Abraham, MIR Labs, USA
Dr. Kun Ma, University of Jinan,
China
Dr. Rabiah Ahmad, University
Technical Malaysia
Dr. Subarna Shakya, Tribhuvan
University, Nepal
Dr. Upasana Singh, University of
Natal, South Africa
Dr. Bimlesh Wadhwa, National
University of Singapore
Dr. Francesco Marcelloni, University
of Pisa, Italy
Dr. Mario Koppen, Kyushu Institute
of Technology, Japan
Dr. Ravibabu Mulaveesala, IIT Ropar
Prof. S. D. Joshi, IIT Delhi
Prof. V. M. Gadre, IIT Bombay
Prof. S. C. Sharma, IIT Roorkee
Dr. N Ramasubramanian, NIT
Tiruchirapalli
Dr. S. B. Deosarkar, Dr. BATU, Lonere
Dr. Sugam Sharma, Iowa State
University, USA

Technical Program

Committee :

Prof. Janet Light, University of New
Brunswick, Canada
Dr. Azah Muda, Universiti Teknikal
Malaysia

Dr. Nitish Devadiga, Datarista, Inc. RI-US.
Prof. Fatos Xhafa, Universitat Barcelona Tech., Spain
Dr. Brijesh Lal, IIT Delhi
Dr. N. P. Pathak, IIT Roorkee
Dr. Bankat Patil, CoE,
Ambajogai (MS)
Dr. Parmanand, Galgotiya University, India
Dr. A. W. Kiwalekar, Dr. BATU, Lonere
Dr. Ajay Kunteta, Rajasthan Tech. University, Kota
Dr. Ribhu Chopara, IIT Guwahati
Dr. Pravin Prajapati, Gujrath Tech. University, Gujrath
Dr. Milli Pant, IIT Roorkee
Dr. R. R. Manthalkar, SGGSI & T, Nanded.
Dr. Arjun Kumar, Korea University, South Korea.

Organizing Committee :

Dr. Harish Tiwari, PCCOER, Pune
Mr. R. K. Bhegade, NCER, Pune
Dr. Ashwini Shinde, NCER, Pune
Dr. Sagar Shinde, NCER, Pune
Dr. Prasad Dhore, NCER, Pune
Mr. Milind Ovhal, NCER, Pune
Mr. Vishal Birajdar, NCER, Pune
Dr. Digvijay Patil, NCER, Pune
Mr. Prem Kolle, NCER, Pune
Dr. Sudeep Thepade, PCCOE, Pune
Dr. N. S. Jadhav, Dr. BATU Lonere.
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Mr. Vinodkumar KJC, BITS Pilani
Mr. Prashant Balasubramaniam, BITS Pilani
Dr. Om Acharya, KIIT, Orissa
Dr. Leeladhar Malviya, SGGSI Indore, MP.
Dr. Shitalkumar Rawandale, PCCOE, Pune

Our Distinguished Reviewers

Name	Affiliation
Dr. Santosh Kumar	Graphic Era University, Deharadon
Dr. Chandrakant Guled	IIIT Pune
Dr. Leeladhar Malviya	SGGS Tech. Indore-MP
Dr. Madhusudhanan Natarajan	PEG Coimbatore
Dr. Vipin Pal	NIT, Agartala
Dr. Subhash Sankeshwari	CoEAmbajogai
Dr. Hemprasad Patil	VIT Vellor, TN
Dr. Sangeeta Vhatkar	Thakur CoE, Mumbai
Dr. Uttam Kakade	Govt. CoE, Awasari-Pune
Dr. Pravin Prajapati	Gujrath Tech University, Anand
Dr. Abhay Gaikwad	BNCoE, Pusad
Dr. U.V.Patil	Govt. CoE, Karad
Dr. Nitin Lingayat	IoPE, Lonere
Dr. Akash Gandhamal	VJTI, Mumbai
Dr. S. Kumaravel	BJIT, Madurai
Dr. VaibhavHendre	GH Raisonry, Pune
Dr. Sunil Mane	COE, Pune
Dr. Vipul Kadam	PES CoE, Aurangabad
Prof. Shradha Panbude	Vidyalankat Inst. Engg, Mumbai
Prof.Sandip Bavkar	VPCOE, Baramati
Prof. Shashank Biradar	Greets, Solapur
Prof.Bhagvan Bodke	RAIT, Mumbai
Prof. Vijay Chaudhari	GF COE, Jalgaon
Prof. Sudhirkumar Dhotre	Orchid CoE, Solapur
Prof.Snehal Gaikwad	Dr. BATU, Lonere
Prof.Pallavi Ingale	Dr. BATU, Lonere
Prof.Aniket Jangam	Dr. BATU, Lonere
Prof.Kunal Kamble	Dr. BATU, Lonere
Prof.Swati Kamthekar	Pillai HOC, Mumbai
Prof. Mukund Kulkarni	Dr. BATU, Lonere
Prof. Niranjan Kulkarni	Orkid, Solapur
Prof. Ameet Mehta	Pillai CoE, Mumbai
Prof.Amit Naik	Dr. BATU, Lonere

Our Speakers:



1]

Dr. Sanjay L. Nalbalwar

Speaker-Director, Innovation, Incubation & Entrepreneurship

Chairman, Board of Information and Communication Technology

TEQIP-III Coordinator

Mr Sanjay L. Nalbalwar received the B.E. (CSE) and M.E. (Electronic engineering) degrees from Shri Guru Gobind Singhji (SGGS) Institute of Engineering and Technology, Vishnupuri, Nanded, Maharashtra State, India, in 1990 and 1996, respectively, and the Ph.D. degree from Indian Institute of Engineering and Technology (I.I.T), Dehli, India, in 2008. He worked as a Lecturer in Computer Tech for 2 years in Dr P.V.V.P.I. Tech. & Engg. Pravaranagar. Also, he worked as a Lecturer in Computer Tech for 5 years in S.T.B. College of Engg. Tuljapur. Presently he is working as a Head of Department in the Department of Electronics Engineering at Dr Babasaheb Ambedkar Technological University, Lonere, MH, India. His research interests include Signal Matched Filter banks: Design, Characterization and Process Modeling

Expert Lectures delivered

- i. Delivered expert lecture in one week AICTE-ISTE STTP on Recent Advances in Wireless Communication at BATU Lonere held during 20/03/2007- 25/03/2007
- ii. Delivered expert lecture in one week AICTE STTP on MATLAB at BATU Lonere.
- iii. Delivered talk in AICTE Sponsored One week QIP workshop on "New Trends in Biomedical Signal Processing" 16th Jan- 21th Jan, 2017 at VJTI, Mumbai
- iv. Worked as reviewer for IEEE and SPPU Pune Sponsored conference on ICAECCT-2016 held during 2nd and 3rd December, 2016
- v. Worked as reviewer for international conference CAST-2016 held at GCOEP 2016
- vi. Member on Programme Committee of ICEGOV2017 (10th International Conference on Theory and Practice of Electronic Governance) by Ministry of Electronics & Information Technology, Government of India, India.
- vii. Worked as reviewer for IEEE sponsored international conference ICCUBEA-2016 held at Pimpri Chinchwad College of Engineering 12th -13th August, 2016.
- viii. TPC member for 3rd International Conference on Cyber Security (ICCS 2017), Department of Computer Science & Engineering, Rajasthan Technical University, Kota, India
- xxii. Delivered expert talk in AICTE Sponsored One week QIP workshop on "New Trends in Biomedical Signal Processing" 16th Jan- 21th Jan, 2017 at VJTI, Mumbai
- xxiii. Delivered expert talk on Signal Processing at SCoE, Narhe, Pune on 9/10/2016

14. Membership of Professional Bodies:

Life Member of IETE (M123221) , CSI (LM54758), ISTE (LM17072),
IE (AM0820973), ISCEE (LM212), IEEE(M80415950): 2005-2007

15. Additional Administrative Responsibilities at Dr. B.A.T.U. Lonere:

- 1 In-charge of Computer Centre of the University. (From July 2008)
- 2 Head of Computer Centre, STB College of Engineering, Tuljapur (24/08/91-29/08/96)
- 3 Chairman, Research Committee, Department of Electronics & Telecommunication Engineering. (From May 2010)
- 5 Head, Department of Electronics & Telecommunication Engineering (From May 2010-till date)
- 6 Department Examination Coordinator. (From 2005-2010)

- 7 Department M.Tech. Programme Coordinator. (From 2005-2010)
- 8 University Intercomm & Telephone Services Coordinator. (From 2005)
- 9 TEQIP Nodal Officer (Finance) (From 2007-2010) and Nodal Officer Procurement (From 2009-2010)
- 10 Member Secretary of Board of Studies of Electronics & Telecommunication Engg. (From 1996 – May 2010)
- 11 Member of Industry Institute Interaction Cell (TEQIP), Dr. B.A.T.U. Lonere (From July 2006-March 2009)
- 12 Member of Community Services Cell (TEQIP). (From 2006-2009)
- 13 Convener, Centre for distance engineering education programme. (From July 2008-2010)
- 14 Member of Consultancy, Research & FD Committee Dr. B.A.T.U, Lonere. (From 2006-2009)
- 15 Member of Executive and Academic Council from 01/10/2013 to 2/3/2016
- 16 Chairman, CCTV Tendering and Procurement, Raigad District
- 17 Member of Building and Works Committee from (DBATU/REG/BWC/2693, 14 October, 2016
- 18 Member of Appointment of Examiners for Examination in each School or Department, 7 Octob 2016
- 19 Member of Purchase and Sale Committee, 7 October, 2016
- 20 Invited Member of Finance committee, 7 October, 2016
- 21 Member of Library committee, 7 October, 2016
- 22 Coordinator of Information and Communication Technology, 3 October, 2016
- 23 Member of Affiliation Section , 3 October, 2016
- 24 Member of Academic Council from August 2016

17. Other Detail:

Conducted Tutorial session of IMPAT two week short term course (Polytechnic Teachers') on "Digital Signal Processing" at IIT Delhi (June 2002).

Developed labs of Computer, Communications, Analog & Digital Electronics Microprocessor, Signal Processing and VLSI laboratories

Developed software for Examination section for results processing

Head of Computer Center at STB College of Engg., Tuljapur, from 1991-1996

Member Board of studies in Electronics Engg., Pune University

Member of Board of Studies ADCET, Ashta, Sangali from 15/07/2016

Chaired session of International conference ICCEEE on 27/12/2013 at Dr. BATU Lonere.

Published book on Signals and Systems in 2017

2]



Dr. Satyanarayana Vollala

**Energy Efficient Multi-Modular Exponential Techniques for Public-
Key Cryptography.**

Speaker: Dr. Satyanarayana Vollala
IIT-Naya Raipur

A SYSTEM OF CRYPTO-PROCESSOR FOR PREVENTION OF INSIDER ATTACK

The present invention provides a crypto-processor preventing insider attacks. This architecture presents a multi-core processor that is organized of four independent RSA crypto-processors available on a single circuit and integrated on a single chip. Modular exponentiation is a preeminent arithmetic operation in an RSA. For evaluation of modular exponentiation, we have designed competent techniques based on bit-patterns of the key which enhances the performance of the

processor in terms of security. The four embodied RSA cores are embedded with different designed modular exponential techniques. The processor includes a scheduler which randomly assigns the cryptographic transformation task to idle RSA core. Attackers cannot find, which crypto-processor is used for the encryption and decryption in polynomial time. The processor also includes its own memory for storing the requests and responses. The data kept in the system is encrypted using the proposed processor to protect from the insider attacks. Even if the attacker manages to access the encrypted data it is of no use because the proposed processor is not only immune from insider attacks but also from reverse engineering, timing attack, power analysis attack, math-based attack and differential side-channel attacks.

4th International Conference on Communication and Information Processing (ICCIP) 2022

Nutan College of Engineering & Research, Talegoan, Pune, Maharashtra

30th & 31st July 2022

The Program Schedule

Day & Date	Time	Event
Day 1 30 th July 2022	10:30 AM to 11:30 AM	Inauguration of ICCIP 2022 Inaugural Talk by Prof. Dr. Sanjay L. Nalbalwar Dean (Academics-FoE&T) Director, Innovation, Incubation & Entrepreneurship Chairman, Board of Information and Communication Technology. TEQIP-III Coordinator
	12:00 PM to 12:45 PM	Plenary Talk by Expert
	12:45 PM to 1:45 PM	Lunch
	2:00 PM to 5:00PM	Virtual Three parallel Paper presentation sessions
Day 2 31 st July 2022	10:30 AM to 12:15 PM	Virtual presentation session & Continuation of three parallel paper presentation sessions
	12:30 PM to 1:15 PM	Lunch
	1:30 PM to 5:00PM	Virtual presentation session & Continuation of three parallel paper presentation sessions

4th International Conference on Communication and Information Processing (ICCIP) 2022

Nutan College of Engineering & Research, Talegoan, Pune, Maharashtra

30th & 31st July 2022

The Program Schedule

Day & Date	Time	Event
Day 1 30 th July 2022	10:30 AM to 11:30 AM	Inauguration of ICCIP 2022 Inaugural Talk by Prof. Dr. Sanjay L. Nalbalwar Dean (Academics-FoE&T) Director, Innovation, Incubation & Entrepreneurship Chairman, Board of Information and Communication Technology. TEQIP-III Coordinator
	12:00 PM to 12:45 PM	Plenary Talk by Expert
	12:45 PM to 1:45 PM	Lunch
	2:00 PM to 5:00PM	Virtual Three parallel Paper presentation sessions
Day 2 31 st July 2022	10:30 AM to 12:15 PM	Virtual presentation session & Continuation of three parallel paper presentation sessions
	12:30 PM to 1:15 PM	Lunch
	1:30 PM to 5:00PM	Virtual presentation session & Continuation of three parallel paper presentation sessions

4th International Conference on Communication and Information Processing (ICCIP) 2022

Nutan College of Engineering & Research,
Talegoan, Pune, Maharashtra 30th & 31st July

2022

Track Schedule

Day 1 – Track 1: Image Processing & Computer Vision			
Date: 30-07-2022		Time: 2pm to 5pm	Google Meet Link: https://meet.google.com/odj-ixqw-nnx?pli=1
Volunteers 1) Mr. Kamlesh Jawre- 8329898221 2) Ms. Princy Patel- 9272189164		Session Chair: 1) Dr. Ashwini Sapkal, Associate Prof., AIT 2) Prof. Shital Mehta, Asst. Prof., NCER	
Sr. No.	PaperID	Title of the Paper	Authors
1	3499	A Survey on Computer Vision Techniques in Autonomous Vehicles	Siddhi Lahange
2	4524	Content based image retrieval with machine learning classification for reducing computational complexity	Ramsha Asaf Pallawkar
3	7044	2D MRI Super Resolution using Generative Adversarial Network	Onkar Satish Joshi
4	2876	Comparative Analysis of Satellite Imagery for Mangrove Forests Classification	Praneetha Bonala
5	7693	Experimental Performance Evaluation of Uncertain Ontology Representation Using Bayesian Model	SANJAY KUMAR ANAND
6	1969	Intellectual System for Medicine Identification for Chronic Patients	Dr. Ashwini Shinde
7	5812	Accurate EEG-based Emotion Detection using Feature Optimization and Machine Learning Algorithm	NAYANA VAITY
8		Blockchain based E-voting	Charudatta Jadhav

9	Decentralized Crowdfunding Using Blockchain	Prof. D.V. Dhawase
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Day 1 – Track 2: AI, ML, CS and Deep learning

Date: 30-07-2022		Time: 2pm to 5pm	Google Meet Link: https://meet.google.com/kbb-ovfv-zdd
Volunteers: 1) Mr. Dishant Kumbhar- 8866325873 2) Ms. Krutika Pawar - 8551880152		Session Chair: 1) Dr. Bharti Vyavhare, Associate Prof., MMCOE 2) Dr. Nilima Kulkarni, Associate Prof. MIT 3) Prof. Seema Mahalungkar, Asst. Prof., NCER	
Sr. No.	PaperID	Title of the Paper	Authors
1	5090	Crop Doctor - A Prediction Model using machine learning algorithm	Rubi Mandal
2	2657	Prediction of Academic Performance of Students Using Multiple Regression	MAMTA SAXENA
3	2014	EQ Based Student Performance Analysis : Linear Regression Estimation Model	Dhiraj Patil
4	1084	DeepFake in an Image Using Deep Learning	Omkar Padir
5	7909	Deep Learning-Based Recommendation System	Kiran Mehra
6	5557	Cross Domain Sentiment Analysis Techniques and Challenges: A Survey	Neha Singh
7	9089	Herbal plants leaf image classification using deep learning models based on augmentation approach	Gaurav Kumar
8	9446	Deep Learning for Air Quality Prediction after Covid-19 Pandemic based on Pollutant and Meteorological Data	Naushad Ahmad
9	9358	Classification of targets from microwave reflections by employing deep neural networks	ATHUL THOMAS
10		Secure Communication Android App using AES Algorithm -CrypTalk	Shubham Hadgal

Day 1 – Track 3: IOT, Embedded Systems

Date: 30-07-2022

Time: 2pm to 5pm

Google Meet Link:
<https://meet.google.com/yks-mqph-gwo>Volunteers: 1) Mr. Adarsh Jaiswal- 7057480295
2) Mr. Vaibhav Kolpe- 7448252618Session Chair: 1) Dr. Sagar Joshi,
Associate Prof, NMIET
2) Dr. Ashwini Shinde,
Associate Prof., NCER

Sr. No.	PaperID	Title of the Paper	Authors
1	8385	A review on opinion leader detection and its applications	sonia
2	4940	An Efficient Approach for Intrusion Detection Using SystemCall Traces	Sandeep Maurya
3	8552	Optimizing Degree of Imbalance and Utilization Cost in Cloud Environment using Effective Particle Swarm Method	Ankit Tomar
4	3869	A review on feature selection techniques for IntrusionDetection System	Dr. Ghanshyam Prasad Dubey
5	5130	Stress Buster Web Application	Darshika Ravindra Pongallu
6	5401	Congestion Control Algorithms for Wireless SensorsNetwork	kriti kumari
7		Smart reliable E-commerce	RAJ GHODEKAR
8		College automation system using IoT	Puja Narkhede
9		Movie recommendations system ising latent factor	Vinay patil

Day 2 – Track 1: Mechanical

Date: 31-07-2022

Time: 10am to 12.30pm

Google Meet Link:
<https://meet.google.com/odj-ixqw-nnx?pli=1>Volunteers: 1) Mr. Kamlesh Jawre- 8329898221
2) Ms. Princy Patel- 9272189164Session Chair: 1) Prof. Vishal Birajdar,
Asst. Prof., NCER
2) Prof. Vaibhav
Suryawanshi, Asst. Prof.,
NCER

Sr. No.	PaperID	Title of the Paper	Authors
1	7933	Design, Analysis and Modification of Chairless Chair	Siddharth Bhandare
2	8400	Multipurpose Bike Safety System	Sanket Gaikwad
3	9086	Fire Tank Safety System	Omkar Mestry
4	3260	Automatic Clutch Kit for Manual Cars	Kamble Harshad
5	6220	On Board Diagnostics and Troubleshooting for TwoWheelers	Kamlesh Jaware
6		Three Wheeled Electric Segway	Shubham Chavan
7	5282	Cylindrical Edge Drilling Fixture	Kengle Rahul
8		Digital Fuel Level Indicator	Tambekar Amol
9		"SMART REFRIGERATOR SYSTEM"	Rahul Sitaram Ingole

Day 2 – Track 2: Mechanical**Date: 31-07-2022****Time: 10am to 12.30pm****Google Meet Link:**<https://meet.google.com/kbb-ovfv-zdd>**Volunteers: 1) Ms. Tanaya Ingle- 8796273766
2) Mr. Devarth Patel -
9324435225****Session Chair: 1) Dr. Digvijay Patil,
PhD, IIT Indore
2) Prof. Yogesh Khairnar, ,
Asst. Prof., NCER**

Sr. No.	PaperID	Title of the Paper	Authors
1	5964	Pneumatic Actuation System	Omkar A. Kulkarni
2	5037	Ergo Comfy Sheet Handling Trolley	Jagadish L. Dube,
3	4965	Bottom Side Battery Bracket & Analysis	Atharva Kadam
4	7613	Automatic Side Stand and Footrest System	Harsshwardhan Pawar
5	3341	Design and Fabrication of Electric Driven Wheelchair cum Stretcher	Akshay Dalvi
6	1503	Manufacturing and Design of Tesla Turbine for Low Pressure Energy Generation	M. Hani Bootey
7	5035	Design of Core Cutting Machine of Hard Core Paper	Rushikesh Gaikwad
8	3333	Design and Fabrication of Pneumatic Vice	Hrishikesh Kolhe
9		Smart Irrigation Using Soil Moisture Sensor	Tushar Bhangare

Day 2 – Track 3: Mechanical**Date: 31-07-2022****Time: 1.30pm to 5.00pm****Google Meet Link:**<https://meet.google.com/yks-mqph-qwo>**Volunteers: 1) Mr. Vaibhav Kolpe - 7448252618
2) Mr. Pratik Gade - 7715897053****Session Chair: 1) Prof. Milind Ovhal,
Asst. Prof., NCER
2) Prof. Ravindra Bhegade,
Asst. Prof., NCER**

Sr. No.	PaperID	Title of the Paper	Authors
1		Survey on AnnaData- Food Provider	Mansi Rokade
2	3331	Design and Fabrication of Automated Guided Vehicle-AReview	Saurabh V. Pawar
3	293	Mini Motorized Press Machine	Sarthak Ambekar
4	3715	Analysis of Robotic Gripper	Mrunmayee Lokhande
5	5429	A Research paper on 3D-Printing Technology and VariousProcesses Used in the 3D-Printing	Shubham Jagtap
6	4233	Design and Fabrication of Solar Operated ReciprocatingPump	Vyankatesh Gavalkar
7	7160	Dynamic Wireless Charging System	Shailesh Kulkarni
8	5427	Experimental Analysis of Solar Dryer Using PCM for GrapesPreservation	Shanesh Khajire
9	8618	Upper Body Exoskeleton	Swapnil Bangar

Day 2 – Track 4: Image Processing & Computer Vision

Date: 31-07-2022

Time: 1.30pm to 5.00pm

Google Meet Link:

Volunteers: 1) Mr. Sonu Gaikwad-
9373646691
2) Ms. Vinay Kamble- 7666474503

Session Chair: 1) Dr. Sagar Joshi,
Associate Prof, NMIET
2) Prof. Ravindra Bhegade,
Asst. Prof., NCER

Sr. No.	PaperID	Title of the Paper	Authors
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Day 2 – Track 5: AI, ML, CS and Deep learning

Date: 31-07-2022

Time: 1.30pm to 5.00pm

Google Meet Link:
<https://meet.google.com/kb-b-ovfv-zdd>Volunteers: 1) Ms. Tanaya Ingle- 8796273766
2) Mr. Stephen - 8329116110Session Chair: 1) Dr. Sagar Joshi,
Associate Prof, NMIET
2) Dr. Ashwini Shinde,
Associate Prof., NCER
2) Prof. Dipika Paranjape,
Asst. Prof., NCER

Sr. No.	PaperID	Title of the Paper	Authors
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**All Tracks Contributes Paper
ICCIP 2022**

Deepfake in an Image Using Deep Learning

Omkar Padir , Rahul Tandel , Sumit Thakare , Pramod Bide

Abstract:-

This paper provides a way to automatically and effectively detect facial interference in videos and focuses mainly on the latest two techniques used to produce fake videos. Deepfake and Face2Face describe a method for detecting face tampering in video that is both automatic and efficient. Due to the compression that severely affects the data, traditional image forensics techniques are usually not well adapted to videos. As a result, this research takes a deep learning method and provides two networks, each with a small number of layers, that focus on image mesoscopic features. We test such rapid networks on a dataset that already exists as well as a dataset that we created from online videos to demonstrate that the proposed metric learning method can be very effective in making such a category. By using Deepfake and Face2Face, we have tried to solve this, and thus these networks provide us with the best possible results, giving us good accuracy. The model uses the MTCNN model to capture the images from videos and further proceeds with the process to detect whether the given video is real or fake. We have achieved an accuracy level of 80%.

Keywords- Deepfakes, efficientNet, image classification, image manipulation

Design and Fabrication of Automated Guided Vehicle-A Review

Saurabh V. Pawar, Mallikarjun S. Koli, Prashant G. Kulkarni, Gaurav S. Rakshe,
Rohit B. Barge, Anil J. Yadav

Abstract:

In this paper, we study the design and fabrication of automated guided vehicle (AGV) systems. This paper provides an overview on AGVS technology discusses recent technological developments and describes the formulation to control the traffic inside industrial work-space. Automatic Guided Vehicle (AGV) is a product that was built using a low budget materials and process. However, this mobile robot itself is intelligence enough to receive data from sensors used (IR line sensor and ultrasonic sensor) to the output which is the DC motor. It is controlled by the program installed in the Arduino UNO with different conditions with different motor speed had been set up for the sensors in regulating the movement of the AGV to follow the line pathways.

Mini Motorized Press Machine

Sarthak Ambekar, Yashraj Dhande, Amit Mhavarkar, Shailendra . N. More

Abstract:

In the many past year, we seeing that the working style of any work is has changed and people change their work style to traditional way to the automation and move towards advance way to do that work. When we compare to the food industry it got hike day by day and it's growing fast. But the requirement food is also increased and for providing them we can't go with traditional way we have go with automation for that we select one area is festival base food industry like in Diwali food industry on their peak in that time and demand for sweets and festival food is very high. This reason for helping small industry and woman-self helped group we introduced Mini motorized Press Machine. This replace traditional shev or chakli maker called 'Saurya' with our machine. Basically, Mini motorized press machine contains single phase 40V motor, Gear box, internal screw mechanism and lastly piston and cylinder container all the component completes our machine. Basically, motor give rotary motion to gear box and gear box adjust speed and internal screw mechanism and pushes to piston to its end point and piston pushes the food material present in the container and benefit is that we can give any shape of that food with attaching shape to the container. It's given befit of timesaver and effortless process and do maximum production compare to the traditional way.

Analysis of Robotic Gripper

Mrunmayee Lokhande, Vaishnavi Khalde, Pratiksha Bhore, Sanjeevni More, Milind Ovhal

Abstract:

This paper presents the optimization parameter of a bidirectional soft actuator gripper leaf evaluating the properties of the gripper leaf based on the material and wedge angle of the actuator. The systematic simulation was conducted to investigate the effect of the top wedged angle (the angle for the wedged shape of the actuator structure) of the chamber on the bending extent of the gripper leaf when it is deflated with hyper elastic material. We quantitatively measured the deformation stress and strain on the gripper leaf. We found that the top wedged angle has a significant effect on the outward bending of the actuator when it is deflated. The result shows that the actuator can deform much easier with a hyper elastic material base and bigger width wedge angle. Utilizing a soft gripper that was built by mounting four actuators to a three dimensional-printed rigid support through various research paper reviews, we found that the

prototype can grip objects of different sizes, shapes, and material stiffness in amphibious environments isomer actuator.

A Research paper on 3D-Printing Technology and Various Processes Used in the 3D-Printing

Shubham Jagtap, Rutvik Hanchate, Yash More, Shailendra N. More

Abstract:

This is a research paper on 3D printing Technology and the variety of materials used in 3D printing and their properties which become a Significant Subject in technological aspects. First, define what is meant by 3D printing and what is significant of 3D printing. We will go into the history of 3D printing and study about the process of 3D printing and what materials used in the manufacture of 3D printed objects and select the best materials among them which are suitable for our 3D printing machine. Also, see the advantages of 3D printing as compared to additive manufacturing.

Design and Fabrication of Solar Operated Reciprocating Pump

Vyankatesh Gavalkar, Pankaj Gonate, Shanidev Benisirur, Shrihari Chaudhari

Abstract:

In present days, people need more power for driving instruments. A solar based reciprocating pump is a pump, running on electricity and electricity generated by Photovoltaic cell, available from collected sunlight as opposed to greed electricity or diesel run water pump. Now a days more types of pump are available such as, positive displacement pump, velocity pump, impulse pump, steam pump, valve less pump. A reciprocating pump is type of positive displacement pump, is used for variety of purpose such as, car washing, irrigation, color spraying, extraction of oil from bottom of the earth, garden water pump, etc. If 50% of the diesel pump were replaced with solar PV pump set, diesel consumption could be reduced to the tune of about 225 billion liter/year.

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Dynamic Wireless Charging System

Milind Ovhal, Shailesh Kulkarni, Ganesh Shastri, Ms.Priyanka Chavan, Dhanjay Raut

Abstract:

Electrified transportation will contribute to the reduction of greenhouse gas emissions and the stabilization of gasoline costs. To promote adoption of electrified transportation, a diverse network of charging stations must be established in a user-friendly environment. Wireless electric vehicle charging systems (WEVCS) have the potential to be a viable alternative technology for charging electric vehicles (EVs) that do not need a plug. This article discusses the present state of wireless power transfer technologies for electric vehicles. Additionally, it contains wireless transformer constructions that have been studied using a range of ferrite forms. WEVCS are linked with health and safety concerns, which have been addressed in recent international standard development. Two main applications, static and dynamic WEVCS, are discussed, and current development is documented using features from research labs, universities, and industry. Additionally, future concepts-based WEVCS are evaluated and studied, including "vehicle-to-grid (V2G)" and "in-wheel" wireless charging systems (WCS), with qualitative comparisons to other current technologies.

Experimental Analysis of Solar Dryer Using PCM for Grapes Preservation

Shanesh Khajire, Saurabh Nagulpelli, Karan Kamble, Darshan Bhegade, Vishal Biradar

Abstract:

Significant amount of time is consumed in traditional drying of food products and also to maintain the required environment all leading to increase in labor cost, space and time. Shifting towards conventional dryer has also led to increase in electricity requirement. So, reduction of electricity usage is a must which is not obtained by conventional air drier. Dryer's main purpose is to heat the air flowing into the chamber and during this part maximum energy is wasted. So, to overcome this fact solar air drier comes into picture. Solar air dryer uses solar rays to heat the air in the solar collector which requires no electricity. Also, by using solar panels the other equipment's which are operated by electricity can be functioned, which eventually saves electricity, and ultimately leads to profit. One more disadvantage of solar drying is overcome by adding PCM chamber in setup, which utilized its energy during off sunshine hours for drying of air. The objective of this project is to maximize the usage of renewable source (sun rays) by using solar collector which heats

the air, also keep working during off- sunshine hours; the main purpose of solar dryer is accomplished. An additional PCM chamber used in this project, which eventually increase the usage of solar energy and ultimately becomes an eco-friendly system.

Upper Body Exoskeleton

Swapnil Bangar, Sohel Chaus, Dhiraj Bhaiyye, Vishal.V.Biradar, Mayuresh Diwane

Abstract:

Exoskeleton is type of device which can be worn over the human body. It is a device which can be powered by motors, pneumatics, levers, hydraulics, etc., to amplify the force of the operator and provide more strength. It is used to increase the load lifting capacity of human beings. It can be used for arm, knee, fingers, etc., according to the application required. Past exoskeletons for arm are bulky and expensive. So, we designed the exoskeleton arm which is light weight and has low cost. It consists of parts like frame, pneumatic cylinder (double acting), directional control valve, artificial muscle and compressor. The necessary strength and motion of the exoskeleton arm is provided by pneumatic cylinder. The main aim of this project is to help the industrial workers in carrying heavy loads, to help physically handicapped persons in their daily routine and also for lifting heavy things, to help military persons to lift arms and ammunitions, etc. The exoskeleton type of robotics creates a natural interaction between human and machine where the user has to only push the lever of DCV and the load is lifted and again by pushing the lever in the opposite direction the load is being released.

Pneumatic Actuation System

Omkar A. Kulkarni, Abhishek M. Mahamuni, Aniket S. Laygude, Ajit D.Thakar

Abstract:

Control systems utilize pressure differential created by the gas sources to drive the transfer of material. Pneumatic control systems are all about using compressed air to operate and power a system air taken from the atmosphere and squeezed are compressed. This compressed air is then used as a pneumatic system to do work. Pneumatic system is used in the many fields such as lorry brakes, bicycle tires, car tires, paint spraying aircraft. Pneumatic systems are used extensively in industry, and factories are commonly plumbed with compressed air or compressed inert gases. This is because a centrally located and electrically powered compressed compressor that

powers cylinders and other pneumatic devices through solenoid valves can often provide motive power in a cheaper, safer, more flexible, and more reliable way than a large number of electrical motors and actuators.

Ergo Comfy Sheet Handling Trolley

Jagadish L. Dube, Nikhil D. Lahekar, Rajesh Brahmane

Abstract:

This project aims at developing a mechanism for straightforward sheet lifting trolley for laser cutting. The requirement for such a system arises from regular necessities in our industry. Devices like hand trolleys (single- or double-wheel trolley) square measure used to relieve the stress of lifting whereas on flat ground.

Bottom Side Battery Bracket & Analysis

Atharva Kadam, Onkar Jadhav, Avdhut Salunke

Abstract:

This paper is all about the advanced technology of 3D printing, their implementation in the respective fields and its significant contribution in the global world of science and medical. In this paper we will deal with the term Additive Manufacturing or 3D Printing and a little bit of its history. Its various applications along with the type of materials used in the 3-D are also described. We shall also throw some light on the numerous opportunities provided by this emerging technology as well as the risks and challenges related to it. Its environmental aspects are also shown in the paper. Lastly the scope and scenario in future potential of 3D printing is also evaluated.

Automatic Side Stand and Footrest System

Harsshwardhan Pawar, Pranav Sawant, Shubham Mokashi, Akshay Gade, B.S.Pawar

Abstract:

Two-wheeler vehicles play a very important role in our life. It helps to travel from one place to another place in very short time. The number of road accidents involving these is also growing. One of the reasons is un-lifted side stand and unopened foot rest. The main reason which increases the risk of accidents is people forgetting to lift up the side stand of their vehicles. It is likely to be caused while taking a turn. Also, it is very common for the pillion rider to forget unlocking the footrest, before taking seat and doing it while the vehicle is in motion. Here we propose an idea of completely automated process for retrieval of side stand and foot rest system. With the use of mechanical and electronic technology, the system developed. Electrically operated servo motor driven mechanisms are used to do the end job of lifting and unlocking the side stand and the footrest respectively. The mechanism works on the signals sent to it by a microcontroller circuit, which generates these signals based on the user code feed to it. By integrating this mechanism to the vehicle, the side stand will automatically left-off when the ignition is turned on and the footrest will automatically unlock when an adult passenger is seated on the vehicle's back seat.

Design and Fabrication of Electric Driven Wheelchair cum Stretcher

Akshay Dalvi, Swapnil Wadekar, Suraj Hande, Pundalik Shendge

Abstract:

In India the number of disabled individuals is increasing every year. Mobility aids are useful for patients for transportation and a replacement for walking especially in indoor and outdoor environment. Transferring the patients from wheelchair to stretcher or to the medical bed is always an issue for the attendant or helper. Patient transferring device is a mobility aid which allows the person to transfer the patient from one location to the other. This project designed in such a way that could transfer the patient with critical injuries, stroke, paralysis, infectious diseases, disabled person and other health related problems from wheel chair to the hospital bed with the aid of only one nurse especially while transferring a patient lying on the wheelchair cum stretcher to the adjacent hospital bed effortlessly and

efficiently. The design of the project includes modelling, calculations for selection of standard cross-section material used for the chassis of the device. The main focus of this project is to design a patient transferring device where no physical contact between patient and the wheelchair operator is seen while transferring the patient to any bed from the wheelchair. Calculations related to electrical system and stretcher wheels and torque required to propel the vehicle.

Manufacturing and Design of Tesla Turbine for Low Pressure Energy Generation

M. Hani Bootey, Atharva Vipat, Krishna Hankare, Omkar More

Abstract:

There are many instances and applications in process industry where the processing of a fluid stream (gas / air) requires its pressure to be reduced. This pressure reduction is usually accomplished through use of a throttling valve. In this method the energy of fluid stream is lost. Currently, emphasis is being placed on more effective energy usage in processing industry. As a consequence, areas in which energy is wasted are being closely monitored and methods of energy recovery are being investigated. This calls for developing of effective low pressure recovery systems (pressure 2.5 bar to 6 bar). Project will deal with modelling and analysis of bladeless turbine with three vane profile mechanism using. The vane profile for rotor and casing disk will be developed using Unigraphics Nx-8, and strength analysis will be done using ANSYS workbench 16.0. Testing of turbine will be done to evaluate the performance characteristics.

Design of Core Cutting Machine of Hard-Core Paper

Rushikesh Gaikwad, Tushar Gavali

Abstract:

The goal of this task is to develop a machine that can cut elongated paper tubes on the mandrel into segments of the same length using a paper tube or core attached to the mandrel. A single control lever operates a cam that expands part of the mandrel with respect to the core when rotated. The core is powered by a pneumatic cylinder controlled by a solenoid operated DCV. With the push button on the control lever, the mandrel rotates electrically, and the lever rotates to move the circle cutter to the pipe cutter. If you separate a previously loaded core segment from the barrel, an adjustable stop member allows it to fall off the mandrel as it loads. A polyurethane ring is attached to the mandrel to provide a durable anvil surface for cutting tools.

Design and Fabrication of Pneumatic Vice

Hrishikesh Kolhe, Sufiyan Chaudhry, Salman Darzi, Chirag Hiwarkar

Abstract:

A vice is a mechanical screw apparatus used for holding or clamping a work piece to allow work to be performed on it with tools such as saws, planes, drills, mills, screwdrivers, sandpaper, etc. Vices usually have one fixed jaw and another parallel jaw which is moved towards or away from the fixed jaw by the screw. Vice is used to drill a wood, metal, etc. by holding your workpiece tightly, it gives you all stability you need so you can make precise cuts. Even it is used for sawing a job with constant force applied by hand, or automatically, in order to cut desired shapes. A pneumatic system is controlled through manual or automatic process. In this Automatic pneumatic vice project for metal working is provided with widely and quick movable clamping jaw and fixed jaw where the vertical clamping surface of the fixed jaw and the horizontal surface of the fastening plane for the working piece confirm an accurate and unchangeable. Using automatically operated pneumatic vice will help you to get the work down easily and save energy.

Smart Irrigation Using Soil Moisture Sensor

Mujahid Shaikh, Tushar Bhangare, Shubham Chavan, Sidhshesh Bhosale, Dipak Sawant

Abstract:

During summers, utmost people are too lazy to water the potted shops on their rooftop auditoriums every day. Explained in this report is a simple and instigative automatic factory watering system that you can make in easy way. It's an Arduino Uno grounded automatic factory saddening system that uses a soil humidity detector. An electromagnetic detector to measure soil humidity was the base for developing an irrigation system at a savings of 53 of water. Old or conventional way of harvesting a fraternity of any type, water by Flood spreading or flood tide irrigation. We can save a water up to 70 than flood tide irrigation. As well as lately we're espoused the drip irrigation, but it's goes delicate to handle. Its need further time and manpower for the same but using our Automated Drip Irrigation

System we try to reduce both time and man requires for husbandry. By the use of semi or completely automated regulators systems.

Design, Analysis and Modification of Chairless Chair

Siddharth Bhandare, Shubham Lasurkar, Sandesh Gade, Aniket Sakpal, Abhishek Sonawane, Neeraj Mohite

Abstract:

Standing too long at work can cause knee pain. The chair less chair is the best solution for them. The chair less chair is the mechanical linkage that helps people to seat while working. The aim of our group is to design a chair with a simple design and at a low cost. The main modification of our project is to give users maximum seating while wearing.

Multipurpose Bike Safety System

Sanket Gaikwad, Chandrashekhar More, Vivek Shrimandilkar, Mayur Gaikwad

Abstract:

Nowadays there's an increase in traveling demands among people and a decline in sharing of public transport which led to reliance on own motor vehicles which in turn led to increased travel holdups and increased occurrence of road accidents. In this paper we are proposing a Multipurpose Bike Safety System (MBSS). This model provides overall safety for the motorcycles by enabling an anti-theft system using GPS tracking, keyless ignition using RFID card, automatic headlights, obstacle detection, side stand safety system and much more. The side stand refers to the basic side stand used in motorbikes. It's characterized by means to rigid the stand, in an inclined area. When the motorbike is in the respite on a ramp, the typical stand would reverse, whereas in safety stand the inverse action is locked, and contemporaneously the movement of the bike is sealed by a trifling method that works mechanically. The prototype was generated and deconstructed using the Dassault System Solid works software. The 2D view was formed in AutoCAD. Due to the automatic headlight system and keyless entry it helps the manual switching on and ease out the task. We have an anti- theft design using raspberry pi attached with GPS for location tracking. Along with this we have also acquainted the system with a collapse cut-off system. This model has been tested for all safety measures and is reviewed to be safe and trusted.

Fire Tank Safety System

Omkar Mestry, Nishant Satpute, Nilesh khonde, Somnath Kapurkar, Vijay Darade

Abstract:

In India many accidents occurs due to fuel tank blast. In petrol vehicles and battery blast in electric vehicle due to uneven change in temperature of vehicle as well as battery due to which vehicle catches fire and may leads to harm to human being and also to the surrounding ,to overcome this problem a hardware platform is made. This paper presents the design, implementation and characterization of a hardware platform for fire tank safety system (FTSS). The primary design goal is to devise a system capable of monitoring the temperature of the fuel tank/battery in real time. This system contains hardware which consists of Arduino board, GPS and GSM module, circuit board, a pump and a fan with radiator. This system offers an Automatic Electronic System (AES) which replaces manual monitoring of temperature, This system measures the temperature and sends the measured temperature to the vehicle owner and if the temperature crosses the required temperature the cooling system gets activated. This system allows automated monitoring of the temperature and lowering the temperature of battery / fuel tank.

Automatic Clutch Kit for Manual Cars

Kamble Harshad, Pokharkar Shriram, Kawade Santosh

Abstract:

Clutches is an important accessory to every car that you drive and so is the clutch pads, we understand that but what if we tell you these clutch pads are creating a lot of hurdles for you. While you use a clutch pad on a daily basis, they have a high chance of getting torn and destroyed, however with our new range of IMT cars which has an intelligent manual transmission you get the luxury to have an auto clutch for manual car, where you can eliminate all the stress and anxiety while driving regarding the clutches because a high intelligence computer will take care of that for you and will monitor the automatic clutch. The computer consumes all its data from the sensors which

functions as supervisor of the monitor speed, brakes and gear engagements. The computer system is coordinated with the Clutch Actuator Unit to make it more efficient, thus making auto clutch cars, or cars with automatic clutch more easy and safer to handle.

On Board Diagnostics and Troubleshooting for Two Wheelers

Kamlesh Jaware, Rana Tonpe, Pritam Jadhav, Deepak Parmar, Bhushan Pawar

Abstract:

Today every new car has an OBD-II (On Board Diagnostics II) port that can be used to retrieve vehicle diagnostics data using an chip. This microcontroller can be used to determine currently measured parameters of the vehicle, such as speed, engine and water temperature, battery charge level, and error codes for fault detection. Our research aimed at modifying and installing this module in a two-wheeler and using an application and an algorithm that perform the relevant analysis of the collected data and produces statistics on whether the currently measured value is within the suitable range. By examining the different readings (if they are alarming several times in a row) it would be possible to warn the user that there may be a problem with the vehicle. By monitoring the data, it would be possible to reduce the probability of major faults occurring and provide information about the occurrence of the fault.

Three Wheeled Electric Segway

Shubham Chavan, Vitthal Kashid, Ganesh Gade

Abstract:

With the increasingly severe environmental problems around the world, exploitation of clean and renewable energy has been a crucial topic As indispensable transportation in modern society, vehicles are ubiquitous but also one of the main sources of pollutants. Because of their status, it is almost impossible to decrease the volume of vehicles. One solution to lowering emissions is the electric vehicle, Electric vehicles have been attracting unprecedented attention in light of the volatile market prices and prospect of diminishing supplies of fuel. Advances in battery technology and significant improvements in electrical motor efficiency have made electric vehicles an attractive alternative, especially for short distance commuting. Overall, the electric vehicle is more energy efficient, environmentally

friendly, and cleaner than the vehicle that relies on fossil fuels especially when smart grids have become Omni present , considering this electric vehicle will be used increasingly in the times to come The project work aims at design development of a road run electric vehicle where in the drive is using a electric motor for single rider configuration. The components will be designed used Uni-graphix software and the analysis of the components will be done using Ansys work bench. Further the electric vehicle will be tested to determine the performance characteristics of the drive.

Cylindrical Edge Drilling Fixture

Kengle Rahul, Shinde Mayur, Katkar Ganesh, Paul Prathamesh, Mujahid Shaikh

Abstract:

Demands for including more functions such as precision guiding in Power Assisted Machining Systems in manufacturing processes have increased with requirements on new safety standards and ease of operation in systems. New safety standards in manufacturing processes, which have been proven to have a positive effect on overall operating safety, refer to operations that give the operator assistance in more and less critical situations to avoid accidents during working. These safety features & manufacturing aids are going to play an increasingly important role in future safety strategies; therefore, it is essential that sub systems in manufacturing processes, such as drilling systems, are adjusted to meet new demands. This thesis also covers various aspects of Power Assisted Drilling Jig-Fixture unit in manufacturing process.

Digital Fuel Level Indicator

Tambekar Amol Sanjay, Kharat Prajakta Prakash, Kandhare Hinduraje Pralhad

Abstract:

Today in this digitalized world, if the in fuel indicator the automobiles is also made digital it will help to know the exact amount of fuel available in the fuel tank. The above furnished fact is considered in our project and we found out a proper solution for indicating the accurate availability of fuel in the tank digitally. A liquid pressure transducer is used to find out the fuel level which is economic and also accurate. The added Feature in this fuel level indicator is that, the reserve condition is pre-informed to the user with an alarm, which helps to tune it to the reserve position before the engine stops and this helps to avoid knocking and engine damage. This project mainly concentrates about the indication of fuel level in irregular tanks (two wheeler and four wheeler tanks). Various other features like the distance covered, mileage obtained, can be added with this arrangement which explains the clear performance of the vehicle and the

fuel used. We can also predict the time for refuelling the vehicle and also to check the amount while fuelling can be done in future. By using this digital fuel level indicator device the amount of fuel available in the tank at any position of the vehicle is predicted. The calculation is based on the principle of liquid pressure through which the pressure of vented fuel available in the tank is found out and the accurate amount of fuel in the tank is displayed in the scale of liters.

SMART AND RELIABLE E-COMMERCE WEBSITE

Raj Ghodekar, Rohan Pundalik, Darshan Kadam, Prasad Dhore

Abstract:-

Worldwide e-commerce sales are expected to grow to 4.88 trillion US dollars by 2021. As more consumers prefer purchasing goods online, launching an ecommerce website can help you take your business to the next level. How does that help you? An online store can help you reach more people globally, retain existing customers, and attract new ones. It allows people to check out your products and shop for them from anywhere, anytime. That's because an ecommerce store is always open.

Classification of targets from microwave reflections by employing deep neural networks

Athul Thomas, Manoj M, Prasanth P.P, James Kurian

Abstract

This paper proposes a target classification method by analysing microwave reflections based on deep learning techniques. Typical radar systems involve antennas transmitting microwave signals and receiving reflected power from the targets. The recovered reflected power spectrum will contain certain distinguishing features of the target item. A comprehensive examination of the reflected power using deep neural networks or machine learning algorithms could congregate these signatures and characterise the target items. The experiments are conducted in a conventional microwave reflection study facility with wideband horn antennas in the 5-10GHz frequency range. A dataset of 5400 observations is created by exposing five different objects in all possible angles, elevations, and distances and recording changes in magnitude and real and imaginary parts using a vector network analyser. The dataset is trained and validated using DNN and SVM algorithms in various ways, including partitioning it as real-imaginary, real-imaginary-magnitude, and magnitude-phase and so on. With real-imaginary-magnitude data, the proposed fully connected deep learning network classifies the targets with 96% of validation accuracy.

Keywords- Radar Target Classification, Deep Learning Techniques, Network Analyzer

Intellectual System for Medicine Identification for Chronic Patients

Ashwini Shinde, Vaibhav Suryawanshi, Dipika Diwase, Deepti Chaudhari

Abstract:-

This research article proposes an intelligent medicine recognition system based on deep learning techniques. The proposed system can assist chronic patients in taking multiple medications correctly and avoiding in taking the wrong medications, which may cause drug interactions, and can provide other medication-related functionalities such as reminders to take medications on time, medication information, and chronic patient information management. The proposed system consists of an intelligent medicine recognition device, an app running on an Android-based mobile device, a deep learning training server, and a cloud-based management platform. Currently, eight different medicines can be recognized by the proposed system. The experimental results show that the recognition accuracy reaches 96.6%. Therefore, the proposed system can effectively reduce the problem of drug interactions caused by taking incorrect drugs, thereby reducing the cost of medical treatment and giving patients with chronic diseases a safe medication environment.

Design and Fabrication of Automated Guided Vehicle

Saurabh V. Pawar , Mallikarjun S. Koli, Prashant G. Kulkarni , Gaurav S. Rakshe , Rohit B. Barge , Anil J. Yadav

ABSTRACT:

In this paper, we study the design and fabrication of automated guided vehicle (AGV) systems. This paper provides an overview on AGVS technology discusses recent technological developments and describes the formulation to control the traffic inside industrial work space. Automatic Guided Vehicle (AGV) is a product that was built using a low budget materials and process. However, this mobile robot itself is intelligence enough to receive data from sensors used (IR line sensor and ultrasonic sensor) to the output which is the DC motor. It is controlled by the program installed in the Arduino UNO with different conditions with different motor speed had been set up for the sensors in regulating the movement of the AGV to follow the line pathways.

Congestion Control Algorithms for Wireless Sensors Network

Kriti Kumaria*, Areeba Kazimb, Dr. CS Yadav abcNoida Institute of Engineering & Technology Gr. Noida (India)

Abstract

This task provides network clustering strategies and cluster header preference in wireless sensor networks to increase the efficiency of the link pool over its lifetime. The routing rule set is used to cluster wireless sensors in the community, using the leaching protocol as a benchmark. This protocol uses single hop talk within the cluster, and the group goes to the base station. In this article, we improve congestion management in the problem, as there are many techniques. Several routing protocols solve the congestion problem that the intruder can create in the system or that the system can use by locating the existing information.

Keywords- Congestion Control protocols, Routing protocols, LEACH Algorithm, Network life

Deep Learning for Air Quality Prediction after Covid-19 Pandemic based on Pollutant and Meteorological Data

Naushad Ahmada, Vipin Kumarb,*

Abstract

The second wave of COVID19 has jolted the environment and economy worldwide. Air pollution is one of the primary causes of these pandemics. Therefore, it is important to analyze the air quality index during the COVID19 pandemic. In literature, machine learning (ML) and deep learning (DL) methods have been deployed to predict PM2.5 to forecast air pollution. The central pollution control board (CPCB) of India has gathered information on pollutants such as Particulate Matter (PM) with a diameter of 2.5 microns, called PM2.5, Particulate Matter with a diameter of 10 microns or less, called PM10, Nitrogen dioxide, Sulfur dioxide, Ozone (O3), Carbon Monoxide, Temperature, Relative Humidity (R.H.), Wind Speed (W.S.), Wind Direction (W.D.), and Solar Radiation (S.R.) CPCB has recorded that Bhiwadi, Rajasthan is the world's most polluted city in 2021 PM2.5 Ranking IQAir. In this research, the air quality of Bhiwadi has been analyzed during the COVID19 pandemic based on the above features. The features are considered from three perspectives 1) pollutant features, 2) meteorological features, and 3) Overall features. The analysis has been performed in two-phase, i.e., 1) meteorological + Pollutant and 2) meteorological+PM2.5. ExtraTreesRegressor of ML and LSTM of DL algorithms

have achieved the best among other algorithms over the overall dataset (meteorological+pollutant) based on root mean squared error (RMSE) performance measures.

Keywords- Deep learning, Air quality index, Machine learning, PM2.5, COVID19

Experimental Performance Evaluation of Uncertain Ontology Representation Using Bayesian Model

Sanjay Kumar Ananda,¹ Suresh Kumar^b

Abstract

Uncertain knowledge allows us to learn new knowledge and leads us to develop a new domain model. The medical domain is a very crucial area of research where a wrong decision taken by a physician can create a significant health issue. Based on patient sensations and certain conventional measurements, physicians attempt to identify possible diseases and doubts. But they fail to do so and deal with uncertainty. Therefore, we need to be certain of the method of any new observation. The Bayesian network (BN) model deals with uncertainty for better knowledge modeling and representation, respectively. This paper focuses on knowledge representation and the prediction of uncertain knowledge in domain ontology (Liver disorder) using the BN model. In this paper, we have evaluated the accuracy of each node and experimentally validated it. We have also compared our proposed model (BN Model) with Random Forest (RF), Hidden markov model (HMM), Support vector machine (SVM), K-NN, and Neural Network (NN) algorithms to check model efficiency to find its sensitivity, specificity, and accuracy. From the result, we found that our approach (BN Model) on the same dataset (Liver Disorder Ontology) outperforms in comparison to other modeling techniques.

Keywords- Decision rules; Information retrieval; Knowledge representation; Ontology; uncertainty

Herbal plants leaf image classification using deep learning models based on augmentation approach

Gaurav Kumara, Vipin Kumar^{b,*}

Abstract

As the world grows daily, people are shifting towards renewable energy sources and natural resources for healthcare as remedies. Herbs are the natural source of medicine in place of synthetic drugs. Herbs are those kinds of plants used to cure the disease of humans or animals. Identification is the most critical aspect of using herbs as medicines. The problem of identification of these herbal plants is trying to be solved using Deep Learning (DL) models in this paper. Here the authors have successfully classified 25 categories of herbal plant leaf images using different deep learning models with the highest test accuracy of 97.68% on original data and 98.08% on augmented data. This research work is an extension

of the previous research work by the same authors, titled "Herbal plants leaf image classification using machine learning approach", in which the six classical Machine Learning (ML) algorithms have been applied to original data and the highest classification accuracies of 82.51% has been achieved by using Multi-layer Perceptron (MLP) classifier.

Keywords- Computer vision, Deep learning, Herbal plants, Image classification, Image processing, Machine learning, RGB image.

Content based image retrieval with machine learning classification for reducing computational complexity

Mrs.Ramsha Asaf Pallawkar* , Mr.Ujwal Harode, Mrs.Suchitra Patil

Abstract

Content based image retrieval (CBIR) allows user to retrieve semantically similar images to a query image from the image repository. This work proposes machine learning based semantic matching for CBIR with support vector machine (SVM) classifier. Features with higher correlation to semantic similarity are extracted from the images and a support vector machine classifier is trained for images belonging to same concept. The performance of the proposed solution is tested for images of various categories. Compared to distance based matching, the proposed solution has higher accuracy in retrieving relevant images and also able to reduce the retrieval time by at least 14 %.

Keywords- CBIR, Image retrieval, Machine learning

Comparative Analysis of Satellite Imagery for Mangrove Forests Classification

Praneetha Bonala*,1, Amit Joshi1, Suraj Sawant1, Mahesh Shindikar2

Abstract

Mangrove forests are the most fragile and productive ecosystems found along the coastlines. They are seen in the tropical and sub-tropical inter-tidal regions. The spatial-temporal analysis of this dynamic system is significant in the conservation and efficient management of the mangroves. Remote Sensing is a way to analyze the changes in these mangrove forests and helps in extracting information about the features affecting them. Right satellite imagery is essential to obtain optimal results. This paper shows a comparative analysis of various satellite imagery considered for understanding the mangrove patterns. LISS-IV, Sentinel-2A, and Landsat-8 satellite imagery are classified into four land-use classes using a Machine Learning algorithm i.e., Random Forest. This model proves its efficiency in performing Land Use Land Cover Maps. Generation and performance analysis of these LULC maps is achieved using Google Earth Engine, which is a powerful cloud computing engine. The classification performance is measured by computing Overall Accuracy, Producer's Accuracy, Kappa, Matthews Correlation Coefficient, and Area of land-use classes. Results show that LISS-IV

satellite data can capture the most intrinsic details of every land-use type. Its veracity in extracting features of the image using Random Forest offers the utmost predictions that have been concurred, hence giving these results. Classification of LandUse classes like Coastal Wetlands is also found to be more suitable in LISS-IV satellite imagery. Amongst the freely available satellite data, Sentinel-2A acquired better results for mangrove cover compared to Landsat-8.

Prediction of Academic Performance of Students Using Multiple Regression

Mamta Saxena, Sachin Gupta

Abstract

In the present world where education is considered as an important factor, all the educational institutions are facing competition at a higher level. Students are diverted towards doing higher courses offered by numerous institutes, universities, and colleges, however with the increase in number of courses and colleges the ratio of scholars is decreasing day by day. Various measures are taken by the educators and stakeholders to reduce the intensity of failure of students. Educational data mining is a new term coined in the sector of education to predict the performance of students in academics and to increase their retention capacity by taking additional measures. This paper contains data of around 400 students collected from several faculties including their social, economic, educational and demographic parameters, and is used to make a regression based performance analysis

Keywords - Educational Data Mining, Regression, Academic Performance,

Cross Domain Sentiment Analysis Techniques and Challenges: A Survey

Neha Singha, Umesh Chandra Jaiswal

Abstract

Sentiment analysis is a field of research that examines public perceptions, emotions, reviews, mentalities, and thoughts toward enterprises in order to determine the conduct of subjective text more efficiently. Data analysis and perspective phrase extraction from facts is a difficult task, especially when it concerns evaluations from many sectors. Cross-domain opinion recognition is a tricky concept in which a sentiment classifier for an unlabeled destination domain is assisted by a tagged source task. Cross-domain opinion analysis is highly relevant in the disciplines of research and engineering. Sentiment classification across domains remains a challenge. This research examines and compares various cross-domain sentiment examination approaches as well as cross-domain sentiment analysis difficulties. A comparative analysis is also provided to summarise the survey.

Keywords- Sentiment Analysis, Cross Domain, Sentiment Classification, Data Analysis.

Deep Learning-Based Recommendation System

Kiran Mehraa, Rahul Dubeyb, Dr. Ghanshyam Prasad Dubeyb*

Abstract

In current days, the recommendation system is the most popular thing which is used in almost all websites and apps like Internshala, LinkedIn, Instagram, and Facebook, Amazon, Netflix, and many more. All of them have used the recommendation system to create practical solutions for the users. A recommendation system is a process of generating results for the user based on their preferences. We have attempted to figure out how to build a good recommendation system by understanding the results generated by previous papers. In this paper, we have worked on the previous paper and we have tried to understand the previous results. We've tried to figure out how to build a good recommendation system. A recommendation system is used to know about the possible results produced by the user. In this paper, we learn about previous work on user outcomes and try to find out how effective they are for the user based on their results and what techniques they use to generate the results. Collecting multiple data and generating different results depending on the interest of the user. Almost all review papers in the recommendation system are based on the user's views, interest and it recommends related data to the user.

Keywords- Collaborative filtering, Content-based recommendation system, Hybrid recommendation system, Recommendation system, Ranking.

2D MRI Super Resolution using Generative Adversarial Network

Onkar S. Joshi*, Amit D. Joshi, Suraj T. Sawant

Abstract

Medical imaging techniques frequently employ magnetic resonance imaging. A system-controlled magnetic field and radio waves produces a detailed image of tissues, various organs inside the body, and the human skeletal system in magnetic resonance imaging. One of the scientific methods used by doctors to examine the internal human body is magnetic resonance imaging. The results can help a doctor to diagnose the different issues related to patient. The brain, liver, kidneys, spleen, pancreas, uterus, ovaries, prostate, and other sensitive organs are all diagnosed using magnetic resonance imaging scans. For accurate and successful medical diagnosis, magnetic resonance imaging must be clear and sharp. The quality of a magnetic resonance imaging result is affected by various factors. A minor movement in the muscle or the desired area can significantly degrade image quality. It is challenging to obtain high-quality images because of technology restrictions and the health conditions related to magnetic resonance imaging radiation. The diagnosis will be complicated by such blurry and unclear visuals. Generative Adversarial Networks gives promising outcomes in the area of image processing. There are variety of conventional methods for converting low-resolution to high-resolution images.

Generative Adversarial Network with deep neural network produces notable next level results as compared to conventional approaches. This work addresses the issue of image resolution and quality of magnetic resonance imaging. The proposed architecture transforms low-resolution input images to high-resolution output images. The discriminator and the generator are two separate neural networks utilised in the Generative Adversarial Network. These two architectures compete with one another to improve the end result. The proposed model gives PSNR score as 25.77080463 and SSIM score as 0.761559466 for 100 epochs.

Keywords- - Deep Learning, GAN, MRI, SRGAN

Stress Buster Web Application

Darshika Pongallu, Siddhi Ratnakar, Janhavi Zambre, Prof. Priyanka Dhuliya

Abstract

Everyone deals with stress, but many people are unable to control it. It's critical to manage significant life stresses well to prevent injury. 99 percent of individuals, across all age categories, are bothered by their hectic lives as a result of the COVID 19 epidemic. Older folks are unable to go for walks outside, young people have lost their jobs, and students are unfit as a result of their mental and physical health issues. However, no amount of medication can resolve this problem. Therefore, considering this real-life issue, "stress buster web application" has four sessions which that will help users reduce tension and resume living joyful lives. It also consists of quiz – to measure the level of stress you are facing, counselling to speak with an expert counsellor one- on-one and get your questions answered, and appointments to schedule a meeting with an expert counsellor.

Keywords Covid-19, Stress, Quiz, Sessions, Counselling, Appointment

A review on feature selection techniques for Intrusion Detection System

Syeda Khubroo Hashmia, Dr. Ghanashyam Prasad Dubeyb*, Puneet Himthanib

Abstract

Feature Engineering plays a significant role in the development of a Classifier Model based on Machine Learning. It aids in the reduction of dataset dimensions, training time, and computation costs; while improving the model's performance and detection accuracy. The most popular method for lowering the dimensionality of a dataset is to employ feature selection. The bigger the dataset's dimensions, the longer the Machine Learning model will need to handle (train and test) it. Those systems fall under the Intrusion Detection System category, and a system designed to monitor the data transitions and network traffic for unauthorized activities and takes corrective steps,

such as generating an alert or warning, to prevent such acts (IDS). This paper discusses some recent methods used to reduce dataset dimensions to optimize performance.

Keywords- Feature Selection, Information Gain, Intrusion Detection, Dimensionality Reduction

EQ Based Student Performance Analysis: Linear Regression Estimation Model

Rubi Mandal, Kavita Jagtap, Dhiraj Patil

Abstract

In today's highly competitive world, where most students have an equal level of IQ, the Emotional Quotient is one of the most distinguishing aspects, aside from cognitive skills, that drives a student's development and progress. As a result, both EQ and IQ are required to evaluate student achievement. Research done so far has focused on IQ, but EQ is also important for a student's overall development and progress. Students can manage their emotions and avoid major problems by understanding their EQ level. As a result, this research primarily focuses on EQ and assists students to analyze their performance and teachers in analyzing their overall class performance via a platform that uses data analysis for visualization and machine learning to forecast student evaluation based on past records that include not only grades but also personal life, behavioral skills, and other factors using linear regression for superintend learning using the Sci-kit learn library is used for prediction.

Keywords- EQ, IQ, Data analysis, Data visualization, Machine learning.

CRP DCR A Prediction Model using machine learning algorithm

Rubi Mandal, Pranav ohar, Priyana aalar

Abstract

arming has been practiced in our country since long time. Agriculture has evolved significantly over time as modernity. The major issue Indian farmers come across is that they do not choose the relevant crop for their soil. They may experience a significant drop in production as a result of this. ere e used accurate farming to solve farmer's problems. Accurate farming is a modern strategy that combines analysed information ith soil types, city, season, and irrigation techniue to choose the best crop for a particular region. ith city as a base input e are using eather API for extracting temperature and humidity from a given city. This avoids crop selection errors and improves yield. In this paper, e are developing a crop suggestion system called Crop Doctor, hich uses aive Bayes a machine learning

technique, to forecast high crop is suitable for a particular soil category based on data sets. It gives us a recommendation with the benefit of efficient input and output. It assists the farmer to take informed farming decisions.

Keywords - API, Flask, Machine Learning, Naïve Bayes

Optimizing Degree of Imbalance and Utilization Cost in Cloud Environment using Effective Particle Swarm Method

Ankit Tomar, Santosh Kumar, Mridul Ghanshala, Saurabh Mishra, Ankit Gupta

Abstract

Over recent years, cloud computing (CC) is an emergent field of the Internet era. Designing an efficient scheduler is an NP problem that requires much time/space with many solutions, so it is always a big challenge. Task scheduling affects cloud performance, particularly for equal load distribution among virtual machines (VMs). This study addressed an effective particle swarm optimization (EPSO) model to schedule the tasks. The proposed model enhanced the Quality of Service (QoS) of cloud and scheduling performance using a novel reverse variation swarm intelligence technique. EPSO secured the lowest degree of imbalance (DI), and resource utilization cost (RUC) are critical scheduling metrics when it is used and tested within an optimum range of solutions in peak demand hours in the cloud environment. Obtained results from the proposed model compared with SJF, RR, FCFS, and existing PSO-based models, and it confirmed that our model outperforms among all and is fit for a wide range of conditions.

Keywords- Load Balancing, Particle Swarm Optimization, Cloud Computing, Workload Factor, Utilization Cost, QoS

A Review On Opinion Leader Detection And It's Applications

Soniaa, Kapil Sharma and Monika Bajaj

Abstract

The Internet has now become a method for users to obtain information, convey their thoughts, and interact with others through a variety of media and services as a consequence of its quick inclusive growth. Web 2.0 has grown increasingly important in people's daily lives.

With time, many virtual groups, such as blogs, forums, and webpages, are becoming more engaging. People can easily express their opinions in public and see what everyone has to say about it. An opinion leader (OL) is a powerful person who is an expert in a specific area and has a large number of people who follows his or her statements or ideas on social media. Opinion leaders are motivated, passionate, and dynamic persons with good educational and behavioral edifications who influence clients through their specialist knowledge. The most essential variables in sensory existence in sociological phenomena are opinions and ideas. This paper surveys the different approaches to opinion leader detection like evolutionary algorithms and the already proposed approaches based on different centrality measures.

Keywords- Opinion leader, evolutionary algorithms, centrality, opinion.

An Efficient Approach for Intrusion Detection Using System Call Traces

Santosh Kumar, Amal Gueroudji, Vikas Tripathi, Sandeep Maurya, Manoj Kumar

Abstract

Cybercrime has been rising prohibitively in the last decades. Companies and organizations have stepped into different strategies to protect their IT systems from cyber-attacks. A new method for host-based intrusion detection has been explored in this paper using the ADFA-LD dataset. For this reason, the continuous skip-gram model has been used for word embedding. It is used to capture many precise syntactic and semantic word relationships. To this, we have exploited its characteristic for the search of relations between sub-sequences of system calls. This gave us very interesting results not only in detection but also in prevention too. A new algorithm has been proposed based on the skip-gram model for analyzing system call traces. In this study, results have been obtained from the prototype that has only three types of traces (Normal, Adduser, and Webshell attacks). The results obtained are very satisfying, as the algorithm classifies correctly a system call trace based on its sub-sequences.

Keywords- IDS, System call traces, ADFA-LD, Skip-gram

A Survey on Computer Vision Techniques in Autonomous Vehicles

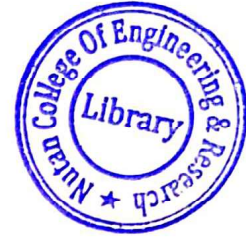
Siddhi Lahange a, Prashansa Nalawade b, Deep Nayak c, Atharva Mohited and Pramod J. Bidee

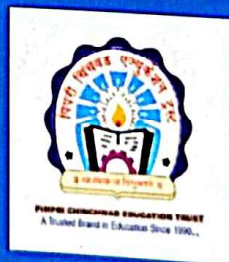
Abstract

In today's world where all tasks can be done with the speed of a single click, autonomous vehicles have come into picture which not only ensures safe self-driving but also an effortless driving experience. The demand of such vehicle tends to grow much more in the near future due to which technologies supporting these vehicles are being improvised and researched. Computer Vision enables the computer to see, understand and make observations just as Artificial Intelligence helps the computer to think. Computer Vision is a branch of AI which helps the computer systems to visualize and obtain information through various inputs just as the human eye works in the human body. Computers can gain immense and accurate information through digital images, visuals as well as videos when trained. Computer vision trains algorithms

and machines so that they can make self-driving easier. It uses sensor technology to recognize objects and people on the lane. Computer vision algorithms when trained can target the safety of the passengers as well as hassle free driving. The motive of this paper is to introduce the research trends as well as technologies being used for autonomous vehicles using computer vision; we also aim to discuss challenges, advantages as well as future scope of these vehicles.

Keywords- Artificial intelligence, autonomous, computer vision, algorithms





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