

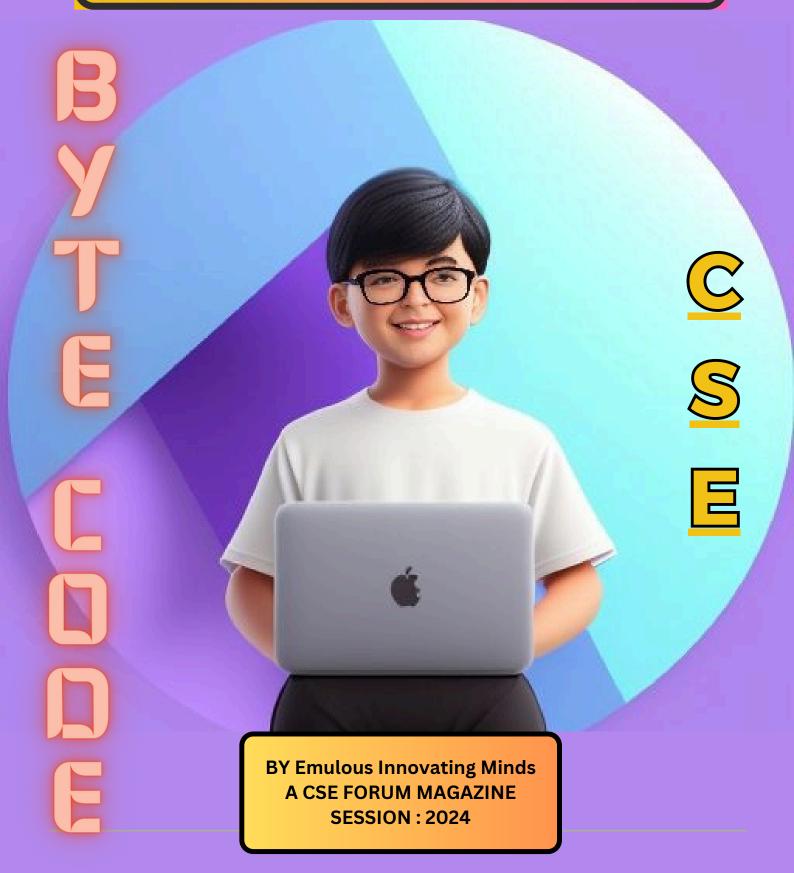






An Autonomous Institute -

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING PRESENTS



An Autonomous Institute









Tulsiramji Gaikwad-Patil College of Engineering and Technology (TGPCET) was established in the year 2007 by Vidarbha Bahu-uddeshiya Shikshan Sanstha (VBSS), a registered society. It is a self financed Private Engineering College, which is affiliated to Rashtrasant Tukadoji Maharaj Nagpur University (RTMNU) Nagpur and is approved by All India Council for Technical Education, New Delhi. Also college is approved by Directorate of Technical Education (DTE), Mumbai, Maharashtra State. The Institute is Accredited with A+ (3.32 CGPA) by NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL (NAAC). An Autonomous Institute affiliated to RTM Nagpur University, Nagpur.

Vision of Institute

To emerge as Learning Center of Excellence in the National Ethos in domains of Science, Technology and Management.

Mission of Institute

- To strive for rearing standard and stature of the students by practicing high standards of professional ethics, transparency and accountability.
- To provide facilities and services to meet the challenges of Industry and Society.
- To facilitate socially responsive research, innovation and entrepreneurship.
- To ascertain holistic development of the students and staff members by i nculcating knowledge and profession as work practices.









About Department

Established with B.E. CSE in the year 2007-08 with an intake of 150 and M. Tech CSE in 2011-12 with an intake of 18. Department focus on Research and training activities are based on -

- Advanced computational methods for modeling, analyzing, and solving complex tasks in technology and science.
- Fundamental computer science methods for the analysis of large and high- dimensional data sets For the modeling and design of complex software, networking and other computational systems.
- Exposing students to the developments in the field of computing, thereby enabling them to meet the needs of the IT industry and research organizations in India and abroad.

Vision of Department

To become a centre of excellence for nurturing the quality
Computer Science & Engineering professionals to cater the needs
of industry and society.

Mission of Department

- To achieve academic excellence by imparting in-depth knowledge to the students through effective pedagogies and hands on experience on latest tools and technologies.
- Inculcating professional behavior, strong ethical values, innovative research capabilities and leadership abilities in graduates.

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- PEO1: Apply mathematical knowledge mathematics and logical programming to frame engineering solutions in the
 - computing domain.
- PEO2: Analyze the real life problems and apply latest tools for developing software solutions.
- PEO3: Apply emerging technology by communicating effectively as a team.
- PEO4: Enhance the quality, security, privacy, cost utility,
 - iquette and ethics by their computing abilities.
- PEO5: Adapt emerging technology and advances in careers for fulfilling the societal needs to protect the environment for lifelong learning.

Program Specific Outcome

- PSO 1 Basic Fundamental: Analyse fundamental knowledge of computer science to analyze complex problem and design effective solution.
- PSO 2 Design and Implementation: Apply modern tool to solve engineering, societal problem and communicate effectively as team member in software project management.
- PSO 3 Higher Studies and Entrepreneur: The ability to use modern computer technologies to create career paths for higher studies and entrepreneurship, also inculcate moral values and ethics for lifelong learn

Program Outcome

- 1.Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2.Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3.Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4.Conduct investigations of complex problems: Use research based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- 5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and software tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- 6.The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9.Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10.Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- 11.Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 12.Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

Messages



Dr. Mohan Gaikwad Patil Chairman, Gaikwad-Patil Group of Institutes

I am delighted that Department of Computer Science and Engineering of Tulsiramji Gaikwad-Patil College of Engineering & Technology has published the Department magazine. The Editorial Board has done a fair job to put up facts before students, parent and community. To expressone 's thought, Department Magazine is the best platform and this is what our students have expressed in terms of contributions towards the magazine. I congratulate Editorial Board for unleashing the hidden potential of the student and making this Magazine a chapter of Tulsiramji Gaikwad-Patil College of Engineering.



Dr. P. L. Naktode Principal

As the principal of the college, it is my testimony here that, in the past year, despite the challenges presented by the global landscape, our students and faculty have displayed remarkable resilience and adaptability. From groundbreaking research initiatives to artistic expressions that stir the soul, each contribution adds to the unique character of our college. As we delve into the pages of this e-magazine, I encourage you to embrace the stories, insights, and accomplishments that showcase the collective spirit of our community. It is through collaboration, understanding, and a shared commitment to excellence that we continue to shape the future of our college



Prof. Pragati Patil
Vice Principal

At the outset, I warmly applaud TGPCET for bringing us the latest edition of the college magazine "BYTE 23". This magazine is intended to bring out hidden literacy talent of students and faculty and also to inculcate leadership skills among them. It is a great pleasure to see the creative expressions of students who had contributed. This magazine has made an earnest attempt in this direction and brought out certain aspects of the college to the eyes of the public so that they may understand and know the college even better. I strongly believe that it would be an excellent medium through which the world can learn about the potential and achievements of TGPCET. I congratulate the members of the editorial board for their tireless efforts. Wishing the magazine, a lasting success!



FROM THE HEAD OF THE DEPARTMENT



I'm excited to introduce "Byte Code", our department's magazine dedicated to bridging the gap between academics and industry. Through insightful guest lectures, engaging industrial visits, and inspiring alumni stories, Byte Code enriches students' learning experiences and connects theoretical concepts with real-world applications. Explore Byte Code to see how we bring industry expertise to the classroom and showcase our commitment to educational excellence. Discover our department's achievements and innovations in each issue!

Prof. Abhimanyu Dutonde Head of Department Computer science engineering

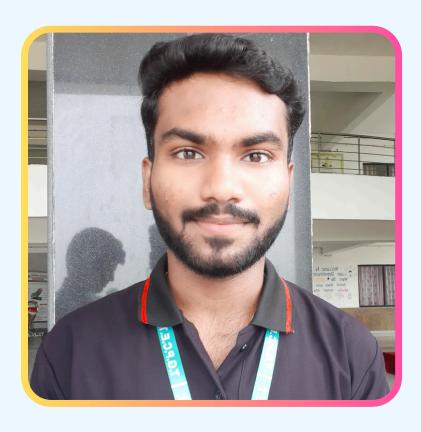
Editorial Board



Prof. Shubhkirti Bodkhe

Welcome to **Byte Code**, the magazine that brings you the latest from our department's vibrant community of students, faculty, and alumni! As the editor, I am thrilled to present this edition, packed with stories of innovation, excellence, and achievement. From industrial visits that take our students behind the scenes of cutting-edge companies, to guest lectures that bring industry experts to our campus, we have it all. Our publications section showcases the research and ideas that are shaping the future of technology, while our alumni stories inspire us with their journeys and accomplishments. I hope you enjoy reading Byte Code as much as we enjoyed creating it. Happy reading

Editorial Body



Mr.Aditya Thakre
Chief Editor

Branch: CSE (3rd Sem)



Mr.Preet Gawali Branch: CSE (3rd Sem)



Mr.Mahesh Wadhi Branch: CSE (3rd Sem)



Mr.Piyush Narnaware Branch: CSE (3rd Sem)

Faculty



Prof. Ashvini Mahajan



Prof. Aditya Lavhale



Prof. Bramhadev Wadibhasme



Prof. Shubhkirti Bodkhe



Prof. Komal Naxine



Prof. Diksha Fulzele



Prof. Mrunali Jadhav



Prof. Jayant Adhikari



Prof. Anita Yadav



- 1. Teachers Articles
- 2. Guest lectures
- 3. Industrial Visit
- 4. Workshop on Python
- 5. Paper Publication
- 6. Rankers
- 7. Awards
- 8. Placement
- 9. Student Corner

Teachers Articles



Prof. Ashvini Mahajan

Public key cryptography, introduced by Diffie and Hellman in 1976, uses a pair of keys—public and private—for secure communication. Unlike symmetric key cryptography, where the same key encrypts and decrypts data, public key cryptography allows the public key to be shared openly while the private key remains confidential. The RSA algorithm, developed in 1978 by Rivest, Shamir, and Adleman, further advanced this field by enabling secure data encryption and authentication through the complexity of factoring large numbers. Today, algorithms like Elliptic Curve Cryptography (ECC) offer efficiency with smaller key sizes. As quantum computing evolves, researchers are working on quantum-resistant algorithms to ensure future data security.



Prof. Jayant Adhikari

Hash tables are crucial data structures that offer efficient data retrieval and storage with average constant time complexity (O(1)) for operations like insertion, deletion, and search. They use a hash function to convert a key into an index in an array, determining where to store or retrieve the value.

Handling collisions—when different keys hash to the same index—is a key challenge. Two common methods are chaining, where collided elements are stored in a linked list at the index, and open addressing, which finds alternative slots using techniques like linear or quadratic probing. Hash tables are widely used in applications such as database indexing, caching, and implementing associative arrays due to their ability to provide quick access and manage large datasets efficiently. Their versatility and performance make them indispensable in optimizing various computational tasks.







Guest Lecture on "Computer Network and NS2 Software's"

Name of Event: Guest Lecture on "Computer Networkand NS2 Software's"

Date of Event: 16th April 2024

Event Coordinator: Prof. Bramhadeo Wadibhasme

Aim of the Program:

The aim of the guest lecture was to provide students with comprehensive insights into the field of computer networks and NS2 software. It aimed to bridge the gap between theoretical knowledge and practical application, empowering students to enhance their understanding of networking principles and simulation techniques.

Program Details:

• Date: April 16, 2024

· Speaker: Mr. Raj Arora, Director, Revat Network Nagpur

Topic: Computer Networks and NS2 Software

Organizer: CSE Department, TGPCET College

Under: ISTE and CSI Students Chapter

Attendance: 75 students

Conclusion

: In conclusion, the guest lecture on "Computer Networks and NS2 Software" proved to be a valuable learning experience for all attendees. Under the expert guidance of Mr. Raj Arora, students gained comprehensive insights into networking principles and simulation techniques, preparing them for future endeavors in the field of computer science and engineering.

Acknowledgment:

The CSE Department extends sincere appreciation to Mr. Raj Arora for his invaluable contribution towards the success of the guest lecture. Special thanks are also extended to the ISTE and CSI Students Chapter for their support in organizing the event and fostering academic excellence within TGPCET College. This report encapsulates the essence of the enlightening guest lecture, highlighting its significance in nurturing intellectual growth and practical skills among students.











Guest Lecture "Selenium and Rust Technologies"

Name of Event: Report on Guest Lecture "Selenium and Rust Technologies"

Date of Event: 15th February 2024

Event Coordinator: Prof. Bramhadeo Wadibhasme

Aim of the Program:

The aim of the program was to provide participants with insights into the integration of Selenium and Rust technologies and to explore their applications in the IT industry. The goal was to enhance understanding and proficiency in utilizing these technologies for software testing and development purposes.

Program Details:

. The program consisted of a guest lecture delivered by Mr. Mayur Kirtane, followed by an interactive Q&A session. Mr. Kirtane shared his experiences and expertise, covering topics such as the fundamentals of Selenium and Rust, practical use cases, and implementation strategies. Participants had the opportunity to engage with Mr. Kirtane, ask questions, and share their own insights and experiences.

Conclusion:

In conclusion, the guest lecture on Selenium and Rust technology proved to be an informative and enriching experience for all participants. Mr. Mayur Kirtane's insights and expertise provided valuable insights into the integration of these technologies and their significance in the IT industry. The program succeeded in achieving its objectives of fostering learning, knowledge-sharing, and professional development.







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Glimpses of Program









Guest Lecture on "Generative AI"

Name of Event: Guest Lecture on "Generative AI"

Date of Event: 30th April 2024

Event Coordinator: Prof. Bramhadeo Wadibhasme

Aim of the Program:

The aim of the guest lecture on Generative AI by Mr. Aniruddha Kalbande, Founder of Fireblazer Pvt. Ltd., was to provide students with insights into advanced AI concepts, particularly focusing on Generative AI techniques, to prepare them for future careers in data science.

Program Details:

• Date: 30th April 2024

• Speaker: Mr. Aniruddha Kalbande, Founder of Fireblazer Pvt. Ltd.

• Topic: Generative Al

• Attendance: Total 84 students were present.

• **Duration**: 2 hours

Conclusion:

The guest lecture on Generative AI by Mr. Aniruddha Kalbande was a resounding success, achieving its objectives of enhancing students' understanding, fostering skill development, facilitating industry interaction, and inspiring career exploration. The event exemplified the department's commitment to providing students with quality education and preparing them for the challenges of the future.

Acknowledgment:

The Department of Computer Science and Engineering extends heartfelt gratitude to Mr. Aniruddha Kalbande for sharing his valuable insights and expertise with the students. Special thanks to all the students who actively participated in the event and made it a memorable and enriching experience







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Glimpses of Program:













Industrial Visit at "Regional Remote Sensing Center-Central, Nagpur

Name of Event: Industrial Visit at "Regional Remote Sensing Center-

Central, Nagpur Date of Event: 29th April 2024

Event Coordinator: Prof. Bramhadeo Wadibhasme

Aim of the Program:

The aim of the program is to provide second-year students with practical exposure to the field of remote sensing technology through an industrial visit to the Regional Remote Sensing Center-Central.

Program Details:

• Date: April 29th, 2024

· Venue: Regional Remote Sensing Center-Central

Participants: Second-year students from section-A

Activities: Informative sessions, live demonstrations, interactive workshops, guided tours

• Coordinator: Dr. Ashish Sharma, esteemed scientist in the field of remote sensing

Conclusion:

The industrial visit to the Regional Remote Sensing Center-Central has been a resounding success, providing students with invaluable exposure to the field of remote sensing. It has not only enhanced their knowledge and skills but also inspired them to consider future prospects in geospatial technology.

Acknowledgement:

We extend our heartfelt gratitude to Dr. Ashish Sharma for his invaluable guidance and coordination in making this industrial visit possible. We also thank the Regional Remote Sensing Center-Central for hosting us and providing students with a memorable learning experienceGlimpses of Industrial Visit:







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experience Glimpses of Industrial Visit:









Industrial Visit at "Regional Remote Sensing Center- Central, Nagpur Nagpur". Applications"

Name of Event: Industrial Visit at "Regional Remote Sensing Center-Central, Nagpur

Date of Event: 30th April 2024

Event Coordinator: Prof. Bramhadeo Wadibhasme

Aim of the Program:

The aim of the program is to provide second-year students with practical <mark>exposu</mark>re to the field of remote sensing technology through an industrial visit to the Regional Remo<mark>te Se</mark>nsing Center-Central .

Program Details:

• Date: April 30th, 2024

• Venue: Regional Remote Sensing Center-Central

• Participants: Second-year students from section B

• Activities: Informative sessions, live demonstrations, interactive workshops, guided tours

• Coordinator: Dr. Ashish Sharma, esteemed scientist in the field of remote sensing

Conclusion:

The industrial visit to the Regional Remote Sensing Center-Central has been a resounding success, providing students with invaluable exposure to the field of remote sensing. It has not only enhanced their knowledge and skills but also inspired them to consider future prospects in geospatial technology.

Acknowledgement:

We extend our heartfelt gratitude to Dr. Ashish Sharma for his invaluable guidance and coordination in making this industrial visit possible. We also thank the Regional Remote Sensing Center-Central for hosting us and providing students with a memorable learning experience









Glimpses of Industrial Visit:







Two Days Workshop on "Python For AI"

Name of Event: Two Days Workshop on "Python For Al"

Date of Event: 29th & 30th April 2024

Event Coordinator: Prof. Bramhadeo Wadibhasme

Aim of the Program:

The workshop aimed to equip third-year students with practical skills in Python programming and its applications in Artificial Intelligence (AI), fostering innovation and excellence in the field of technology

Program Details:

- Day 1:
- Introduction to Python: History, applications, and importance. Setting up Python environment: Installation and IDE setup.
- Basic Python commands and fundamentals: Syntax, variables, data types, operators, and control structures.
- Hands-on exercises: Writing and executing basic Python programs.
- Miniature game building: Overview of game development, creating a simple text-based game, implementing game logic, user input, decision making, testing, and debugging.

Day 2:

- Introduction to Artificial Intelligence: Definition, history, types, applications, and importance.
- · Creating AI voice assistants: Understanding Natural Language Processing (NLP), Text-to-Speech (TTS), and Speech-to-Text (STT) technologies.
- · Building a simple voice assistant using Python: Integrating TTS and STT libraries, implementing basic commands and responses, testing, and refining.

Conclusion:

The Python for AI workshop, organized under the ISTE and CSI student chapters in collaboration with MSIT Services-CMS Nagpur, provided participants with a comprehensive learning experience. It equipped them with valuable skills and knowledge essential for AI development, reaffirming the commitment of the organizing bodies to fostering innovation and excellence in technology education.







Acknowledgement:

The organizers extend heartfelt gratitude to all workshop participants, facilitators, guest speakers, and collaborating partners for their invaluable contributions to the success of the workshop. Special thanks to Expert Swapnil Pande for sharing insights and expertise, enriching the learning experience for all participants. Additionally, gratitude is extended to MSIT Services-CMS Nagpur for their collaboration and support in organizing the event

Glimpses of Program:

Day 1:











Day 2:









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Paper Publication

Sr.			Name of	Volume	Issue	Public ation	ISSN/I SBN
no.	Name of Authors	Tittle of paper	Journal	No	No	Year	No
	Shivali Tiwari	Improving the		Vol. 47	Special		
	shivalitiwari9@gmail.com	Efficiency of			Issue		
1		Video Object			No. 1		
	Aditya Lavhale	Detection &			140. 1		
	aditya.cse@tgpcet.com	Classification					
	Towns A. Helbook	using BiLSTM with Recurrent	UTE (The		A.		
	Jayant Adhikari jayant.cse@tgpcet.com	Graph	Indian				
	jayant.ese@tgpeet.com	Convolutional	Journal of				
	Abhimanyu Dutonde	Neural	Technical		7		0971-
	abhimanyudutonde@gmail.com	Networks	Education)			May-24	3034
	Pragati Patil		IJTE (The	Vol. 47	Special		
	viceprincipal@tgpcet.com	/	Indian		Issue		
2			Journal of		No. 1		
	Abhimanyu Dutonde		Technical				
	abhimanyudutonde@gmail.com		Education)				
	Heena Bharat Kachhela	Design and					
	heena.kachhela@gmail.com	Implementation					
		of Safety Robot					
	Bramhadeo Wadibhasme	System based on				May-	0971-
	bramhadeo.cse@tgpcet.com	Controller				24	3034
	Abhimanyu Dutonde		IJTE (The	Vol. 47	Special		
	abhimanyudutonde@gmail.com		Indian		Issue		
3	Shubhkirti Salode		Journal of		No. 1		
	shubhkirti bodkhe@gmail.com	Review on	Technical				
	shuonkii tuodikii egginani.com	Environment	Education)				
	Jayant Adhikari	Monitoring					
	jayant.cse@tgpcet.com	System with					
		AI/ML Review					
	Aditya Lavhale	Paper				May-	0971-
	adityalavhale@gmail.com					24	3034
	Jayant Adhikari		IJTE (The	Vol. 47	Special		
4	jayant.cse@tgpcet.com		Indian		Issue		
	Dhanshri Badole	Detection &	Journal of		No. 1		
	dhanshribadole1999@gmail.com	Analysis for	Technical				
		Limitations of	Education)				
	Pragati Patil	Ethernet Cable					
	viceprincipal@tgpcet.com	Connecting					
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	bramhadeo.cse@tgpcet.com	Devices Inseries				24	3034









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5	Pragati Patil viceprincipal@tgpcet.com Prajakta Helonde prajaktahelonde1397@gmail.com Bramhadeo Wadibhasme bramhadeo.cse@tgpcet.com Abhimanyu Dutonde abhimanyudutonde@gmail.com	Advanced Firefighting and Alert System Innovation	IJTE (The Indian Journal of Technical Education)	Vol. 47	Special Issue No. 1	May-	0971- 3034
6	Pragati Patil, Abhimanyu Dutonde, Trishali Dhote, Aditya Lavhale	Enhancing Data Analysis Efficiency: A DBSCAN- Apriori Fusion in Map Reduce	IJTE (The Indian Journal of Technical Education)	Vol. 47	Special Issue No. 1	May-	0971- 3034
7	Abhimanyu Dutonde, Pragati Patil, Suraj Pawar,	Design of an Efficient Spiking Neural Networks based Proof of Transaction (PoT) Consensus for Improving Security of Banking	IJTE (The Indian Journal of Technical Education)	Vol. 47	Special Issue No. 1	May-	0971-
8	Ashwini Mahajan Abhimanyu Dutonde, Pragati Patil, Monali Raut, Bramhadeo Wadibhasme	Transactions Enabling Seamless Interaction: A CNN-OpenCV Fusion Approach to Real-time Hand Gesture Recognition	DTE (The Indian Journal of Technical Education)	Vol. 47	Special Issue No. 1	May- 24	0971- 3034

Rankers

TOPPERS OF 3RD YEAR AUTONOMUS:

Ranks	Name of Student	Marks Out of 700	Percentage/ SGPA
1	Saurabh Tembhurne	624	9.33
2	Anushka Kamble	629	9.24
3	Pranab Mondal	624	9.19
	Saloni Sontakke	629	9.19

TOPPERS OF 2ND YEAR AUTONOMUS:

Rank s	Name of Student	Marks Out of 700	Percentage/ SGPA
1	Rupesh Mutkule	639	9.79
2	Shejal Burele	635	9.75
3	Sheetan Khamankar	629	9.71

TOPPERS OF 1ST YEAR AUTONOMUS SECTION A:

Ranks	Name of Student	Marks Out of 650	Percentage/ SGPA
1	Astha Nikhare	573	8.8
2	Harshal Waghmare	568	8.7
3	Bhoomi Bodele	566	8.5

TOPPERS OF 1ST YEAR AUTONOMUS SECTION B:

Ranks	Name of Student	Marks Out of 650	Percentage/ SGPA
1	Sanjana Paul	579	8.9
2	Yamini Bhese	571	8.7
3	Preet Gawali	569	8.5









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Faculty Awards













TULSIRAMJI GAIKWAD-PATIL College of Engineering & Technology







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Certificate



NPTEL-AICTEFaculty Development Programme



(Funded by the MoE, Govt. of India)

This certificate is awarded to

for successfully completing the course

ASHWINI MHAJAN

with a consolidated score of %

Social Networks

Prof. Andrew Thangaraj

NPTEL224€S56S1262901605

Roll No:

Duration of NPTEL course:

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams.

This certificate is therefore acceptable for promotions under CAS as per AICTE notifications dated 16th Nov, 2023, similar to other refresher / orientation courses.

F.No. AICTE / RIFD / FDP through MOOCs / 2023









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Mr. Varis Rana Computer Science & Engineering

Selected In: parchaa

Package:



Ms. Fareen Ansari Computer Science & Engineering

Selected In:

Corizo Edutech, Bangaluru

Package: 6.25 LPA



Mr. Novhel Rahangdale Computer Science & Engineering

Selected In:

Acmegrade Pvt. Ltd. Bangaluru

Package:

6 LPA



Vidarbha Bahu-uddeshiya Shikshan Sanstha's TULSIRAMJI GAIKWAD-PATIL College of Engineering & Technology







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Student Awards



Congratutations



Student Corner

Leveraging Data Analytics for Business Growth

In today's data-driven world, leveraging data analytics is crucial for business growth and competitive advantage. Data analytics involves examining large volumes of data to uncover patterns, trends, and insights that can inform strategic decisions.

Businesses use data analytics to enhance various aspects of their operations. For instance, marketing teams can analyze customer behavior and preferences to craft more targeted campaigns, increasing engagement and conversion rates. Similarly, sales teams can use data to identify potential leads and optimize sales strategies, improving performance and revenue.

Moreover, data analytics helps in understanding customer feedback and satisfaction, enabling companies to improve products and services. Real-time analytics can provide instant insights, allowing businesses to respond quickly to market demands and emerging opportunities.

However, successful implementation of data analytics requires robust data management practices and the right tools. Ensuring data quality, integrating data from various sources, and utilizing advanced analytics tools are essential steps for extracting actionable insights.

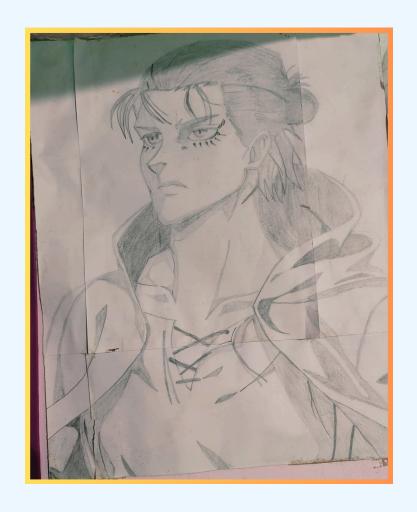
In summary, data analytics empowers businesses to make informed decisions, enhance operational efficiency, and drive growth. By effectively leveraging data, companies can stay ahead in a competitive landscape and achieve sustainable success.

- By Aditya D. Thakre

स्वच्छता...

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जो सरहद पर तो
ना जा सके .
पर फ़र्ज़ अपना निभाते हैं।
अस्वचता नामक शत्रु से भारत देश को बचाते है |
दो पल वतन के आज मेरे उनके नाम करती हँ,
जो सड़क नाले साफ करते हैं ,उन्हें सलाम करती हूं |
घिन आती है लोगो को जिनसे ...
जमाना जिसे धिक्कारता है।
वही सच्चा सैनिक है ...
जो अस्वचता को मारता है।
यु तो हम सरहद पर पुरुषोता दिखलाना चाहते हैं।
इस्लामाबाद की धरती पर, भी ध्वज लहराना चाहता है |
यह ख्वाब बेशक़ पूरा होगा ..
योवन में जो ताकत है।
शेरो के जो दात गिरे,
खून में जो हिम्मत है |
सेनिक सरहद बचा लेंगे,
बैठे वतन की सदन में ...
हम भी तो कुछ अर्पण कर दे
आप अपनी भारत माँ की , आराधना करें।
```

- मोहिनी कमलाकर डफ





- By Prathmesh Wasnik