BYTES

DEPARTMENT OF COMPUTER ENGINEERING

Vision of the Department
To be recognized as a Centre of Excellence in the field of Computer Engineering where learners are nurtured in scholarly environment to evolve into competent Computer Engineering professionals to benefit society

Mission of the Department
1. Evolve a curriculum which emphasizes on strong engineering fundamentals with the flexibility to choose advanced courses of interest and gain exposure to tools and techniques in Computer Engineering.
2. Encourage a teaching-learning process in which highly competent faculty share a symbiotic association with the institutes of repute.
3. Facilitate creation and dissemination of knowledge through a digitally-enabled learning environment.
4. Develop academic and infrastructural facilities with modern equipment and other learning resources and encourage reciprocal sharing with other institutes through networking.
5. Establish a centre of excellence to enhance academia – industry partnership and work on collaborative projects.

Programme Educational Objectives (PEO)
1. To enable the pursuit of knowledge in the field of Computer Engineering and contribute to the profession and employability of the students.
2. To engage in research, generate the employment through entrepreneurship and work effectively in multidisciplinary environment.
3. To understand the human, social, ethical and environmental context of their profession and contribute positively to the needs of individuals and society at large.

WHAT'S INSIDE

PROF. DR. SACHIN BOJEWAR

HEAD OF DEPARTMENT, COMPUTER ENGINEERING

Our department is more than just an academic institution; it is a vibrant community where innovation, collaboration, and excellence thrive. Together, we have the incredible opportunity to explore the frontiers of technology, pushing boundaries and shaping the future of computer engineering. The ever-evolving landscape of our field presents us with challenges and opportunities, and I am confident that, with your passion and dedication, we will continue to achieve new heights of success. I wish you all a successful and fulfilling academic year. I encourage you to take advantage of the numerous opportunities available within the department, including research projects, internships, and extracurricular activities. These experiences will not only complement your academic studies but also contribute to your personal and professional growth. Let us embark on this journey together, supporting one another and creating a legacy of excellence in computer engineering.

> " Security used to be an inconvenience sometimes, but now it's a necessity all the time.
> --Martina Navratilova "

CSI Flagship Event: Cyberfrat – 1 Day Symposium On Cyber Security

DATE:7th October 2023

The cybersecurity event unfolded as a comprehensive journey, covering a wide array of domains crucial in today's digital landscape. Commencing with an explicit emphasis on the significance of security awareness, it laid the foundation for a day filled with illuminating insights. As the event progressed, it delved into the intriguing and evolving realm of deep fake technology, shedding light on the potential threats it poses and how individuals and organizations can protect themselves against this emerging menace.

To enhance the overall awareness and engagement, the event introduced innovative techniques. This included the use of graphical videos and interactive games that provided an immersive and educational experience. The interactive games invigorated the atmosphere, fostering active participation and knowledge retention. The event culminated with the announcement of game winners, who were rewarded with coveted prizes, including IoT devices and vouchers.

Departmental Updates

1. Prof. Suja Jayachandran Reviewed paper as Reviewer at The International Conference on Technology 4 Education (T4E 2023) is organized by the EdTech Society, India, and hosted by IIT Bombay
2. Prof. Snehal Andhare attended FDP (Grant Writing for Funded Research) certificate that I had attended on 4th Dec,2023
3. Department conducted Board of Studies meeting in December 2023
4. GDSC VIT conducted a city level conference in generative AI on 14th October 2023, the keynote speaker was Vaibhav Malpani (Google Developer Expert for google cloud).

Department Staff

PROF. Divya Surve
ASSISTANT PROFESSOR

EDUCATION QUALIFICATION:
PURSUING PhD

WORKING EXPERIENCE:
9 YEARS

AREA OF SPECIALIZATION:
CLOUD COMPUTING
IMAGE PROCESSING

PROF. PRAKASH PARMAR
ASSISTANT PROFESSOR

EDUCATION QUALIFICATION:
PURSUING PhD

WORKING EXPERIENCE:
13 YEARS

AREA OF SPECIALIZATION:
DATA SCIENCE
DEEP LEARNING
BIG DATA ANALYTICS
PYTHON PROGRAMMING

> "Information is the oxygen of the modern age. It seeps through the walls topped by barbed wire, it wafts across the electrified borders."
> --Ronald Reagan

Student's Speak

Mugdha Sawalapurkar

I first heard about Vidyalankar Institute of Technology from my sibling, who studied electronics there. Seeing how excited and proud he was when he got accepted got me curious. It wasn't until I went with my parents to pick up his degree that I thought, "Hey, I want to be part of this college too!". Securing admission felt like a dream come true, and the reality surpassed my expectations. At the heart of our college's success are the esteemed professors who form the backbone of our academic community. The faculty at VIT maintains a remarkable connection with students, fostering an environment where we feel comfortable sharing both academic challenges and personal concerns. Their generosity extends beyond conventional teaching methods, prioritizing innovative approaches to learning and development. Throughout my two years of education at VIT, the support I received has led me to an understanding of my aspirations.

Mugdha Sawalapurkar
TE-B

I am grateful to VIT for the enriching programs organized by societies like CSI and CESA, as well as the various projects and opportunities provided. I express my gratitude to Prof. Amit Nerurkar, my mentor, for guiding us on the correct path not only academically but also in our personal lives. He exemplified how a teacher or professor can positively influence a student's life, ultimately contributing to academic progress. Reflecting on the past two years spent at VIT, I find that they have been more enriching in terms of knowledge than my entire school journey. This period has been truly transformative for me. As I look ahead to the upcoming years in this college and even beyond graduation, I am committed to cherishing and applying the teachings and values that have become an integral part of my life.

CESA Flagship Event: V-Toycathon Bootcamp

DATE:25th October 2023

It was a journey towards conceptualizing an idea for a toy development. This event was conducted to create awareness among participants on how to build a toy/digital game based on Bhartiya civilization, history, culture and mythology. Speakers for this event were Mr. Aniruddha Rajderkar (Founder of Mawala - The Board Game) & Mr. Priyansh Lakhotia(Co-Founder of Youngineers). The event took an interactive turn with Mr. Aniruddha Rajderkar hosting a captivating game at Gate 2 of our college, where players embodied as Swarajya warriors, accompanying Chhatrapati Shivaji Maharaj on his journey from birth to Rajyabhishek. In this collaborative game, participants worked together to reach the destination and submit their earnings to Swarajya. The player with the most earnings received greater honor during the ceremony and emerged victorious. This engaging game provided enjoyment for all participants, making it a highlight of the event. The event was a splendid blend of inspiring talks, valuable insights into game design, guidance on competition participation, and interactive gaming.

> " A good programmer is someone who always looks both ways
> before crossing a one-way street.
> --Doug Linder "

Know an Alumnus Ram Pandey

My four years at VIT were nothing short of transformative. I entered as an ambitious but directionless kid and emerged as a responsible adult, confident in my decisions. This journey was made possible by the experiences and guidance I received, particularly from the Computer Engineering Department. Reflecting on my time with the department, I have a treasure trove of fond memories. The professors were not just educators but mentors who encouraged me to explore beyond the classroom. They pushed me towards internships, including a significant opportunity in my third semester. This early exposure to the professional world was invaluable. I was fortunate to learn from professors like Rugved Sir, Amit Nerurkar Sir, Ravindra Sangle Sir, Rasika Ma'am, Mohini Ma'am, and Priti Patil Ma'am. Their unwavering support and encouragement played a pivotal role in shaping my journey.

Ram Pandey

They didn't just teach; they inspired me to grab every opportunity, from participating in hackathons to engaging in extracurricular activities. Their belief in me was a compass that guided me through my academic and professional quests. My perspective on the relevance of college concepts like operating systems, networking, and software architecture has evolved significantly. I've come to realize that these foundational subjects are critical in understanding and solving real-world problems. As a software engineer, I now see how these concepts are instrumental in building systems that cater to millions of users. I am immensely grateful for grasping these concepts well, as they proved to be invaluable when optimizing complex systems. During my tenure at VIT, I participated in six hackathons, securing prizes in four. Additionally, I completed eight internships, which honed my technical skills, making me adept at tackling diverse challenges in the engineering domain. The consistent support and guidance from the Computer Engineering Department were crucial in these achievements. To my juniors, I offer two pieces of advice. First, do not underestimate the importance of basic subjects like operating systems, data structures, algorithms, and networking. These form the bedrock of your engineering acumen. Second, seize every opportunity provided by your professors. It's your chance to prove yourself and grow into a competent engineer. In closing, I extend my heartfelt gratitude to all the professors and the Computer Engineering Department of VIT. Their dedication and support not only equipped me with the skills to excel in my field but also shaped me into a responsible individual. Thank you for setting me on a path to success and for all the invaluable lessons along the way.

Best Paper Award

Prof. Sanjeev Dwivedi received Best Paper Award in 44th World Conference on Applied Science, Engineering & Technology (44th WCASET-2023)

> " A secure system is one that does what it is supposed to.
>
> --Eugene Spafford "

Department Achievements
Best Influential Professor: Dr. Sachin Bojewar

Most Influential Professor - 30TH BUSINESS SCHOOL AFFAIRE & DEWANG MEHTA NATIONAL EDUCATION LEADERSHIP AWARDS || 24TH NOVEMBER 2023 || TAJ LANDS END, MUMBAI

Aavishkar Gold Medal: Prof. Swapnil Sonawane

Prof. Swapnil Sonawane received Gold Medal at Aavishkar Inter-collegiate Research Convention conducted by University of Mumbai in December 2023 for his contribution in his PhD research work.

Aavishkar Consolation: TE B Students

Team MediPal (TE CMPN B) won the consolation prize at the final round of the 18th Aavishkar: Inter-Collegiate/ Institute/ Department Research Convention, 2023 for the project titled- MediPal- A medicine reminder app.
Team members: - Namita Warang- Janhavi Karpe- Shruti Patil
Guide:- Prof. Suja Jayachandran

Vanita Samaj Yonex Sunrise State Level Open Badminton Tournament Women's Singles-
Shivani Herlekar(BE-B)

Winner - 02/12/2023
Acing this tournament has by far been my best achievement in 2023 since I won a singles title. This tournament was conducted in between my final Semester 7 examinations, so it was a bit challenging for me to manage studying and playing matches, but I'm happy I could manage my exams as well as my tournament successfully.

> We need a cybersecurity renaissance in this Country that promotes cyber hygiene and a security-centric corporate culture applied and continuously reinforced by peer pressure.
> --James Scott

Publications

1. Prof. Suvarna Sapre published paper "A Comprehensive Survey on Deep Learning Algorithms in Dental Radiograph Analysis for Dentistry Applications" in Scopus index 'Healthcare Analytics journal'…(Springer publication)

2. Prof. Suja Jayachandran presented Paper titled "Unfolding features of Gamification Pedagogy" was presented at " The International Conference on Technology 4 Education (T4E 2023)" organized by the EdTech Society, India, and hosted by IIT Bombay)

3. Paper titled "Early autism detection using ML on behavioural pattern" by R. Patwari, S. Havare, V. Bhosure, Y. Jagdale & D. Surve published in CRC press Taylor and Francis Book Series.

4. Mrudula Rothe, Ritika Lath, Dishant Kumar, Parth Yadav, Amit Aylani presented paper Slang language Detection and Identification In Text in IEEE conference 4th International Conference on Computing Communication and Networking Technologies (ICCCNT)

CESA Event : Hacktoberfest

CESA organized a Hacktoberfest event (9th October 2023) on Git & Github .Our speaker for this event was Mrs.Deval Sutaria Ma'am (Sr.Manager DevOps at cloudxchange.io & expertise in Git, DevOps and cloud technologies with 17+years of experience in IT Industry). Git and GitHub offer a broad scope in modern software development. They facilitate efficient version control, enabling teams to collaborate seamlessly and maintain code integrity. Their scope extends to open-source contributions, fostering community-driven development.

Additionally, Git and GitHub are essential skills for developers, enhancing employability in the tech industry.

CSI Event: Film Fiesta

The movie screened was Arrival on (6th October 2023) & was released in 2016. The main plot begins when twelve mysterious spacecraft appear around the world. Linguistics professor Louise Banks is tasked with interpreting the language of the apparent alien visitors. The movie was an intellectually stimulating and captivating viewing experience for the students.

CESA Event: Bit Battle

The Computer Engineering Student's Association (CESA) successfully organized the coding event "Bit Battle" on the CodeChef platform (26th October 2023). This event aimed to challenge participants in the domain of coding and algorithmic problem-solving. The competition commenced with six coding problems, culminating in the recognition of two winners who demonstrated exceptional proficiency in solving these challenges.

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As our country increasingly relies on electronic information storage and communication, it is imperative that our Government amend our information security laws accordingly.
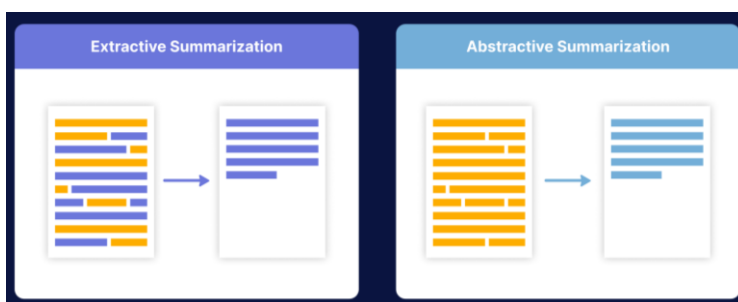--Jo Ann Davis
"

Student Article: THE AI SUMMARIZATION TOOL

Have you ever found yourself spending hours attempting to make sense of lengthy documents, drowning in a sea of information? Imagine a world in which you could save time and effort by having a smart tool read, comprehend, and summarise all that information for you. These days, AI summarization is more than just a novel idea—it's a game-changer for our hectic lives. It's like having an extremely intelligent assistant that can identify the most crucial information from conversations, written documents, and even films. Not only can technology save us time, but it also improves our quality of life and guides our decision-making. Artificial Intelligence (AI), Machine Learning (ML), and Natural Language Processing (NLP) are three fields at the forefront of technological progress that we use for this. By enabling computers to understand, interpret, and produce human language, natural language processing (NLP) is revolutionising machine-user interaction. Based on experience rather than explicit programming, machine learning (ML), a branch of artificial intelligence, excels at pattern detection and predictive analysis. The broad term artificial intelligence (AI) refers to a range of technologies and methods that are used to build intelligent computers that can perform cognitive tasks similar to those of humans.

Harsh More
BE-A

The two primary methods used in text summarization are extractive and abstractive. Using libraries such as NLTK, or spaCy, extractive approaches choose and rearrange sentences from the original text according to their relevance. Conversely, abstractive summarization makes use of sophisticated models like BERT and GPT to produce new sentences that encapsulate the main ideas of the source material. The process of turning spoken content into text via Automatic Speech Recognition (ASR) systems is the first step in audio summarization. After transcription, methods akin to text summarization, such as extractive and abstractive techniques can be utilised, frequently integrating deep learning models such as transformer structures or recurrent neural networks (RNNs). Processing visual and aural information is a problem for video summary. Convolutional Neural Networks (CNNs) are frequently used in image captioning techniques, which entail segmenting films into frames. Video summarising is a multimodal approach that includes both visual and audio inputs. Furthermore, key frames or segments that best represent the total material may be chosen using methods based on reinforcement learning.

UPCOMING EVENTS

- TEDxVIT WILL BE ORGAINIZED IN JANUARY 2024

- CSI WILL HOST ITS FLAGSHIP EVENT ENTHUSIA IN MARCH 2024

- CESA WILL HOST ITS FLAGSHIP EVENT IN MARCH 2024

- GDSC VIT WILL BE CONDUCTING ITS FLAGSHIP EVENT SPECTRUM IN MARCH 2024

- GDSC VIT WILL BE HOSTING WOMEN IN TECH SUMMIT IN FEBRUARY 2024

> "When you want to know how things really work, study them when they're coming apart.
> - William Gibson"

THE

Editorial Team

PROF. AMIT K. NERURKAR

Chief Editor