



VIGNANA BHARATHI
Institute of Technology

Counselling Code: VBIT

(A UGC Autonomous Institution, Approved by AICTE, Accredited by NBA and NAAC-A Grade, Affiliated to JNTUH)

Department of
Computer Science and Engineering
(Artificial Intelligence & Machine Learning)

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Bridging Imagination and Reality

The Newsletter 2024
Volume 1 | Issue 1

Predicting the future isn't magic,
it's **Artificial Intelligence & Machine Learning**.



www.vbithyd.ac.in

INSTITUTE VISION

To emerge as a premier institution for technical education in the country through academic excellence and to be recognized as centre for excellence in Research and Development.

INSTITUTE MISSION

To establish a strong institute by consistently maintaining state of the art infrastructure and a cohesive, world class team by providing need based technical education.

DEPARTMENT VISION

To channel the gap between industry and academia by utilising automated methods and advanced technological resources to provide technical education that meets international standards of excellence.

DEPARTMENT MISSION

1. Enhancing student technical competence on global level through an effective teaching learning process and advanced infrastructure.
2. Emphasize professional ethics, societal concerns, technological skills, and perpetual learning to succeed in multidisciplinary fields.
3. Developing a Competency Centre in Artificial Intelligence and Machine Learning through collaborative efforts with industry experts and pioneering research initiatives.

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About Institute

VBIT, Sponsored by Swami Vivekananda Educational Trust (SVET) is the place where opportunities are provided for students to realize their ambitions, where new ideas are born, where innovative projects materialize, and where students excel in learning.

Founded in 2004 by highly qualified people, Vignana Bharathi Institute of Technology emerged as a hub for engineering excellence. At VBIT, students will discover engineering in a different light. Students will experience an engineering education that is on par with the industry requirement.

The institute is recognised as one of the Top Engineering Colleges in Telengana with NAAC 'A' Grade and NBA Accreditation.

Academic Leaders



Dr. N. Goutham Rao
Chairman - VBIT

Dr N. Goutham Rao, with a Doctorate in Sociology is a man of many laurels. He is a towering intellectual, a thinker and a doer as well. A person to leave no work unfinished, he has successfully completed many projects launched by Osmania University under UGC's special Assistance Programme. A right blend of tradition and modernity is reflected in Dr Rao which only undermines his ability to be accessible to rural and urban students and teachers as well.

Dr. G. Manohar Reddy
Secretary - VBIT

Dr G. Manohar Reddy, who hails from a village in Nalgonda district, is a livewire adding youthful dynamism and vibrancy to Management Committee. Dr. Reddy has a creditable academic record right from his school days. A gold medalist in M.Sc Chemistry in the year 1989, he takes time to teach Chemistry and be with the students.



Dr. P. V. S. Srinivas
Professor & Principal

Dr. P. V. S. Srinivas, an astute academician and administrator, is the Principal and Professor in the Department of Computer Science Engineering. He has conferred the honor of Ph. D. in Computer Science Engineering from JNTUH, Hyderabad in the year 2009. He obtained his M. Tech in CSE from JNTUH, Hyderabad in 2003 and graduation (AMIE) in ECE from the Institution of Engineers (India) in 1990. Dr. P. V. S. Srinivas has a rich academic and industry experience of 27 years.

Program Specific Outcomes (PSOs)

The graduates of Computer Science and Engineering with Specialization in Artificial Intelligence & Machine Learning will be able to:

PSO 1:

Understand, Apply Multi-Disciplinary and core concepts with emerging technologies for sustaining with the Dynamic industry Challenges.

PSO 2:

Design Automated Applications in Machine Learning, Deep Learning, Natural Language Processing and Relevant Emerging areas for visualizing, interpreting the datasets.

PSO 3:

Develop Computational Knowledge, project and Interpersonal skills using innovative tools for finding an elucidated solution of the real world problems and societal needs.

Acknowledgements

We express our sincere gratitude to our esteemed Chief Patrons Dr. N. Goutham Rao, Chairman - VBIT and Dr. G. Manohar Reddy, Secretary - VBIT, for their immense support and guidance.

We would like to acknowledge our Patrons Dr. P. V. S. Srinivas, Principal - VBIT, Dr. Y. V. S. S. V. Prasada Rao, Director - VBIT and Dr. G. Amarendar Rao, Director of Academic Audit & PG Studies, for their invaluable contribution and encouragement throughout the development of this Newsletter.

We extend our acknowledgement to our Convener, Dr. K. Shirisha Reddy, Head of Department - CSE (AI & ML) and Mrs. S. Surekha, Assistant Professor & Incharge, for their magnificent leadership and dedication which have been pivotal in guiding this project.

Lastly, we express our heartfelt appreciation to our team for their diligent oversight and unwavering support in coordinating the various aspects of Newsletter production.

To all our readers, we extend our sincere appreciation for thoroughly exploring every page.

-Computer Science and Engineering (Artificial Intelligence & Machine Learning)

ABOUT DEPARTMENT

The Computer Science and Engineering (Artificial Intelligence and Machine Learning) department at Vignana Bharathi Institute of Technology, was established in 2020. Since its inception, the department has been dedicated to develop students with a vigorous foundation in computer science principles, including programming languages, algorithms, data structures, and computer architecture. Over time, the curriculum has evolved to encompass leading-edge concepts such as Artificial Intelligence, Machine Learning, Deep Learning, Natural Language Processing, Computer Vision and Neural Networks, reflecting the rapidly changing technological realm.

Guided by experienced faculty members who are experts in their respective fields, the department emphasizes hands-on learning, research, and practical application. Through projects, laboratory exercises, and assignments, students have the opportunity to apply theoretical knowledge to real-world problems.

Throughout its history, the department has fostered a collaborative and innovative learning environment, encouraging students to think critically, solve complex problems, and push the boundaries of technology. Graduates emerge as skilled professionals equipped to design intelligent systems, develop innovative applications and contribute to ongoing advancements in artificial intelligence and machine learning, thereby shaping the future of technology and engineering.



Message from the HOD

— Empowering Excellence in AI & ML at VBIT



Dr. K. SHIRISHA REDDY

HOD | CSE [AI & ML]

Vignana Bharathi Institute of Technology stands as one of the leading engineering colleges, dedicated to enable students to enhance their professional careers through robust academia-industry partnerships. As the Head of the Department of Computer Science and Engineering specializing in Artificial Intelligence & Machine Learning at VBIT, I take pride in stating that our department has an intake of 180 students and well-established laboratories. Our commitment remains unwavering towards providing innovative and high-quality technical education, maintaining stringent standards throughout.

At VBIT, both our teaching and non-teaching staff are dedicated to elevate our student's expertise in Artificial Intelligence, Machine Learning and various related fields, preparing them to excel in future endeavors and fostering a competitive spirit. We encourage a culture of creativity, ideation and experimentation by offering hands-on sessions, research projects and internships within the Department of AI & ML.

Beyond the curriculum, our primary goal is to augment our students' experiences with value-added programs and skill enhancement initiatives. We actively inspire their participation in technical events, Hackathons, Ideathons and Workshops at both national and international levels.

We are developing a Center of Excellence in Artificial Intelligence and Machine Learning through collaborative efforts with industry experts and pioneering research initiatives. As the Department of AI & ML at VBIT, we are fully prepared to tackle emerging challenges and aspire to be recognized as one of the premier institutions in this domain.

EVENTS

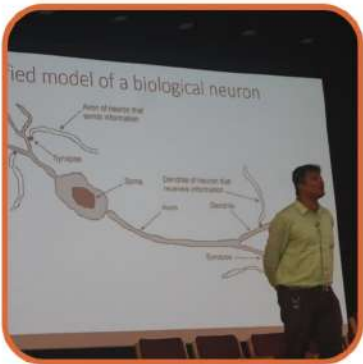


THE ML EDGE: An Innovative and Inspire

The ML Edge was a peer learning colloquium on Machine learning, conducted by the CSE (AI & ML) department on 12th September, 2023. The session was handled by 14 final-year students who explained various machine learning algorithms theoretically and practically to their peers and helped them gain insights. This session helped students explore various machine-learning techniques and implement them. With over 200 students in attendance, the event was a huge step forward in peer-to-peer learning, allowing them to build their technical skills and practical experience using emerging technology.

Deep Learning and its Applications on Satellite Imagery

The CSE (AI & ML) department organized a session titled “Deep Learning and its applications on Satellite Imagery” by Dr. Vijender Busi Reddy, a renowned scientist from ISRO, handled the session. This colloquium was held on 2nd December, 2023, in the Nalanda Auditorium. 210 participants had the opportunity to interact with the speaker and gained invaluable insights. The applications of AI-driven remote sensing were discussed by the speaker, with emphasis on jobs like categorizing land cover and monitoring disasters. The goal of the session was to demonstrate that technology is essential to the advancement of space research and technology.



Workshop on The Applications of Deep Learning

The Deep Learning Workshop, organized by the CSE (AI & ML) department, featured Professor Ravi Kumar Jatoth from NIT-Warangal. With 500 enthusiastic attendees, the seminar explored the transformative applications of deep learning. Professor Ravi’s presentation elucidated how deep learning, a branch of artificial intelligence, revolutionizes fields like computer vision and speech recognition. Through teamwork and practical skills, students were empowered for real-world AI careers.



Industrial Visit to The National Remote Sensing Centre (NRSC)

Around 200 Second-year students from the CSE (AI & ML) department had an opportunity to visit the National Remote Sensing Centre (NRSC). This industrial visit enhanced practical knowledge and understanding of the students. The students had the privilege of interacting with the scientists and gained valuable insights on operations, processes and technology at NRSC.

Versioning (EpsilonPi)

EpsilonPi' the forum of CSE (AI & ML) organized "Versioning" on 2nd March, 2024, emphasized GitHub and Prompt Engineering. This event featured sessions on building a game with prompts and utilizing GitHub for collaborative coding. Participants had the opportunity to develop websites using prompts and hosted them on GitHub. The top three websites and games were shortlisted by the jury. Through "Versioning", attendees gained valuable insights into modern engineering practices and the importance of collaboration and versioning tools like GitHub.

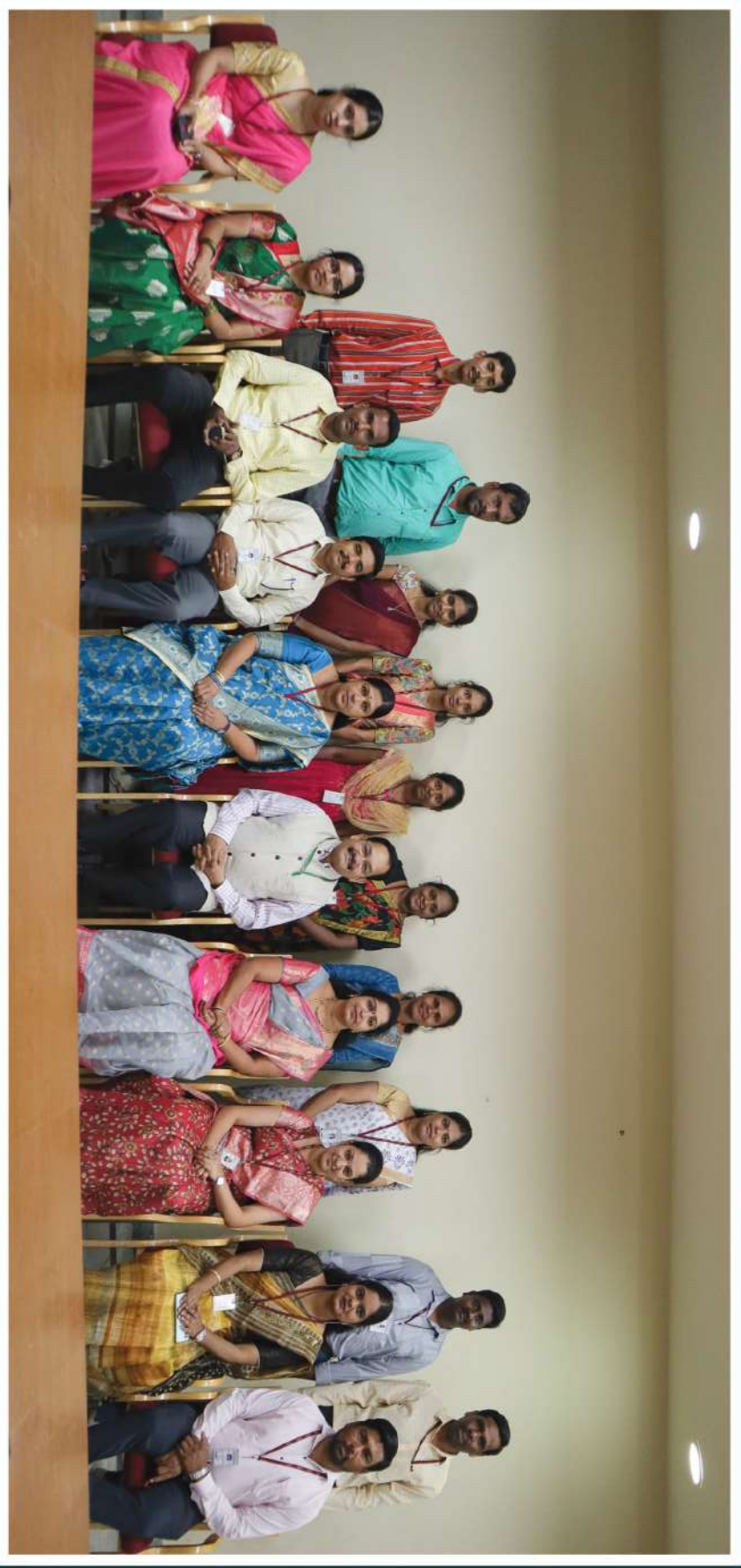
Faculty Coordinator: Mrs. P. Navya



Industrial Visit to C-DAC

The Department of CSE (AI & ML) at VBIT organised an Industrial Visit to the renowned Center for Development of Advanced Computing (C-DAC). This visit was organized exclusively for all our Third-Year students, it was an exceptional opportunity for our students to delve into the world of advanced computing, witnessing cutting-edge innovations and advancements firsthand.

DEPARTMENT FACULTY



Department of Computer Science and Engineering (Artificial Intelligence and Machine Learning).

PUBLICATIONS



Dr. K. Sirisha Reddy

ECG based one-dimensional residual deep convolutional auto-encoder model for heart disease classification.
Date of Acceptance: 25th December, 2023.

Regression and Classification of Alzheimer's Disease Diagnosis using NMF-TDNet Feature from 3D Brain MR image.
Date of Acceptance: 30th May, 2023.



Dr. M. Suneetha

Managing of pharmaceutical supply chain using Blockchain technology.
Date of Acceptance: 23rd November, 2023.



Mr. Ch. Nagaraju

Analysis of PAPR, BER and Channel Estimation in Multi Carrier Modulation System using Neural Networks.
Date of Acceptance: 14th January, 2024.



Mrs. P. Laxmi

Enhancing Diabetes Management: A Hybrid Adaptive Machine Learning Approach for Intelligent Patient Monitoring in e-Health Systems.
Date of Acceptance: 11th January, 2024.

**Mrs. S. Surekha**

An Autoencoder Based Malware Detection Method Utilizing Deep Learning.

Date of Acceptance: 14th January, 2024.

**Mr. K. Pavana Johar**

Liver disease prediction using Machine Learning based evaluation approaches.

Date of Acceptance: 8th March, 2024.

**Mrs. P. Navya**

Machine Learning based algorithm for rapid object detection based on color features.

Date of Acceptance: 30th March, 2024.

EpsilonPi

EpsilonPi, is the first forum in VBIT that majorly focuses on Machine Learning, Data Science, and Deep Learning With immense help from management along with the strong support of our faculty coordinator, Mrs. P. Navya, Assistant Professor|CSE(AI&ML). EpsilonPi was launched officially on 10th April 2021. We believe in meeting the unmet and unarticulated needs of every student in VBIT and strongly focuses on inculcating a product mindset.



ACHIEVEMENTS

In our relentless pursuit of innovation, we have achieved milestones that resonate across industries and echo through time. Our journey has been marked by unwavering commitment and visionary leadership. Here is a glimpse of some of our achievements.



Center of excellence in Machine Learning

Centre of Excellence in "Machine & Deep Learning" in association with NIT, Warangal. The event was graced by chief guest, Prof. D. V. L. N. Somayajulu, Director, IITDM Kurnool. The inauguration of the Centre of Excellence in "Machine & Deep Learning" stands as a momentous occasion, symbolizing our commitment to cutting-edge research and knowledge exchange. Distinguished by the presence of esteemed guests and visionaries, we embark on a transformative journey toward groundbreaking discoveries.

Wipro Certified Faculty



Mr. D. Madhava Rao has been awarded a certificate with "Wipro Certified Faculty" for participating in the training program on Java Full Stack conducted by TalentNext. This Program enhances educators expertise in technology, emphasizing project-based learning. This program serves as a bridge between academia and industry, fostering a holistic learning experience for students.

Student Achievements

Around 10 students from the department participated in the IEEEExtreme programming competition and secured all India ranks below 200. This showcases their exceptional problem-solving skills and dedication.

Our students have received the best presenter award for their concept on "Preventive Education in Schools" at the Anti -Drug Abuse summit organised by RKSC at BITS, Hyderabad for their insightful approach to drug prevention in educational settings.

Our diligent students have published numerous impactful research papers across diverse fields. Their contributions span computer science, engineering, social sciences, and medicine. These scholarly endeavors foster critical thinking and innovation. Their dedication to intellectual growth is commendable!

PROJECT CATALOGUE



Virtual Surya Namaskar Coach

This project tackles the hurdles beginners encounter in correctly executing Surya Namaskara yoga poses. Rooted in ancient India, Surya Namaskara harmonizes mind, body, and spirit, promoting fitness and stress relief.

- Jhanavi Putcha (20P61A6622), Neeraj Kumar Pola (20P61A6640), Ankith Reddy Subhanpuram (20P61A6649)
Dr. K. Shirisha Reddy (Supervisor)

STEGACRAFT

Steganography, an age-old technique for clandestine communication, has modernized across text, audio, and image realms. Concealing data in text, audio, and images serves various purposes, from covert communication to copyright protection, enhancing cybersecurity.

- D. Haritha Bhaskara Vignya (20P61A6615), Shreejit Chander Cheela (20P61A6647), Sidhi Anish Kumar (20P61A6648)
Dr. K. Shirisha Reddy (Supervisor)



Zeus: The Personal Assistant

This project aims to innovate personal assistant technology with a sign-based assistant, similar to conventional voice assistants. It enables sign language interaction and detection for visually reliant individuals, using computer vision and gesture recognition.

- Arya Shreya (20P61A6603), B. Meghana Chowdary (20P61A6607), Ashish Gajjela (20P61A6616)
Mrs. P. Navya (Supervisor)

Autonomous Racing Car using Deep Q-Learning

This project is used to create an independent racing car system using Deep Q-Learning in TrackMania. Through reinforcement learning, it trains an agent to autonomously navigate tracks, optimizing steering, acceleration, and braking in real-time.

- Arisela Meghana (20P61A6602), Toomu Sahithi (20P61A6652), Cheripally Jitendra Kumara Prasad (20P61A6611)
Mrs. P. Navya (Supervisor)



CERTIFICATIONS & INTERNSHIPS



Infosys Springboard

Infosys Springboard is a holistic digital and life skills training program in India. Developed in collaboration with educators, it aligns with India's National Education Policy 2020. The program emphasizes vocational and soft skills, offering master classes and programming challenges. Successful learners can earn certifications through virtual proctored exams. "500+" students from the CSE (AI & ML) Department have successfully completed this certification course.

Cisco Networking Academy

The Networking Academy is a globally recognized IT skills program with an innovative curriculum. It empowers learners, educators, and communities by providing inclusive career paths. The program bridges technological gaps for underrepresented groups, granting access to diverse opportunities in the evolving digital economy. "500+" students from the CSE (AI & ML) Department have successfully completed this certification course.



Oracle Academy



Oracle Academy's Database Curriculum empowers students to learn and practice with Oracle Autonomous Database through Oracle APEX and the Oracle Academy Cloud Program. By engaging in hands-on learning, students develop both database expertise and career-ready skills. This knowledge equips them to excel in academic studies and thrive as innovators and leaders in various industries. "200+" students from the CSE (AI & ML) Department have successfully completed this certification course.

AICTE (All India Council for Technical Education)

AICTE, in collaboration with the Eduskills Foundation, has launched several cohort-based virtual internship certification programs to help students enhance their skills and provide a structured learning environment. More than 200 students from CSE (AI & ML) Department have successfully completed different internships available on this platform.





AWS Academy

AWS Academy is a global program that provides educational institutions with access to an AWS-developed and authorized curriculum so they can easily offer cloud computing courses to the students. More than 180 students from CSE (AI & ML) Department have successfully completed different internships available on this platform.

Salesforce

Salesforce is a cloud-based Customer Relationship Management (CRM) software that helps business owners easily track all communications and foster relationships with their leads and clients. More than 180 students from CSE (AI & ML) Department have successfully completed this internship.



ServiceNow



ServiceNow is a cloud-based workflow automation platform that enables enterprise organizations to improve operational efficiencies by streamlining and automating routine work tasks. More than 120 students from the Department of CSE (AI & ML) have successfully completed this internship program.

IITH internship

IIT Hyderabad provides various internship opportunities that allow individuals to network with researchers, professionals and fellow interns. This can prove to be advantageous for future career growth. In addition, to gain insights that are not easily found in textbooks, direct mentoring from faculty members offers a unique opportunity to learn from some of the top minds in the field.



भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

PLACEMENT TRAINING PROGRAMS

Our department has undertaken an initiative to facilitate several comprehensive programs, offering students an invaluable opportunity to enhance their skills. Furthermore, we have partnered with industry professionals to ensure the curriculum is relevant and up-to-date with current trends.

Campus Recruitment Training

A program designed to provide training to college students who are preparing to enter the job market. The program is aimed at equipping students with the necessary skills and knowledge to successfully apply for and secure employment opportunities.

The program has been divided into two phases.

1. Professional Development Training.
2. Technical Development Training.

The Campus Recruitment Training program was implemented to provide students with opportunities in an optimal learning environment.

Professional Development Training

In this phase, students focus on enhancing their fundamental problem-solving abilities to clear the aptitude test of the campus recruitment exams. Additionally, they also work on developing their interpersonal skills, which include communication, leadership, soft skills, teamwork, technical interview skills and HR interview skills.

Technical Development Training

In this phase, students develop their programming knowledge and solve previous interview questions that were frequently asked by industry-leading companies such as TCS, Wipro, and Accenture. Students have engaged with the following topics:

1. Basics of C.
2. Multidimensional Arrays.
3. String Manipulation.
4. Structures and Unions.
5. File Handling.

PayPal

PayPal India has taken the initiative to support women empowerment by collaborating with ICT Academy to offer a 140-hour intensive activity-based training program that is exclusive to women. To enhance the technical skills of the students and make them industry-ready, ICT Academy, as a part of the PayPal CSR initiative, launches the Student Enablement Program to train students of higher education on advanced technologies by establishing the Centre for Women Empowerment (CWE) and Centre for Youth Empowerment (CYE).

OUR TEAM



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Asst. Prof. of CSE(AIML)
FACULTY
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