



Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)



School of Computing Department of Information Technology

ANNUAL Magazine AY 2022-2023

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INSTITUTION LEADERSHIPS



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Vice Chancellor**

Department Leaderships



Dr. V Srinivasa Rao
Dean - School of Computing



Dr. Visumathi J
HoD - Information Technology

MESSAGES FROM THE DEPARTMENT

Message from the Dean

Dr. V. Srinivasa Rao

Dean - School of Computing

It gives me immense pleasure to present the Annual Magazine of the Department of Information Technology for the Academic Year 2022–2023. The year has been marked by active engagement in research, technical learning, innovation, student competitions and industry-oriented skill development. The department's efforts in organizing international and national-level academic activities, encouraging project-based learning and promoting professional development reflect our commitment to creating a vibrant learning environment. I congratulate the faculty members and students for their achievements and contributions, and I wish the department continued success in nurturing competent, responsible and innovative technology professionals.

Message from the HoD

Dr. J Visumathi

HoD - Information Technology

The Academic Year 2022–2023 has been a productive and memorable period for the Department of Information Technology. Our students and faculty members actively participated in conferences, hackathons, project competitions, workshops, guest lectures, certification programmes and industry skill-enhancement activities. The organization of ICRTITA'22 was a major milestone that created a strong platform for research exchange and academic collaboration. The department also strengthened its focus on emerging areas such as Artificial Intelligence, Data Science, Cloud Computing, Internet of Things, User Experience Design and Machine Learning. This magazine captures the collective efforts and accomplishments of our academic community. I appreciate every contributor and encourage our students to continue learning, innovating and creating meaningful solutions for society.

Department Profile

The Department of Information Technology, School of Computing, provides an academic environment that integrates core computing knowledge with emerging technologies, industry-oriented skill development, research exposure and project-based learning. During 2022–2023, the department promoted student participation in coding events, innovation contests, research presentations, technical workshops and professional training while encouraging faculty engagement in research, invited sessions and industry-linked development programmes.

Our Vision and Mission



Vision

To evolve as a center of academic excellence in providing globally standard education and research in the field of Information Technology and to mould young graduates into competitive, innovative, self-disciplined and visionary computer professionals while maintaining a commitment to diversity and humanity.

M1: To design and update an outcome-based curriculum that equips students with modern computing knowledge to solve real-world problems.

M2: To strengthen conceptual understanding and analytical capability through innovative, ICT-enabled and learner-centered pedagogical practices.

M3: To build a vibrant research environment that enables faculty and students to advance innovation in computing.

M4: To nurture ethical, complete and industry ready professionals capable of pursuing diverse career paths and contributing responsibly to society.



Mission

Programme Educational Objectives (PEOs)

After 3-5 years from the year of graduation, our graduates will,

- PEO1: Formulate and apply mathematical, scientific, and engineering principles to solve problems in the information technology domain.
- PEO2: Leverage modern IT technologies to address societal expectations and fulfill professional responsibilities.
- PEO3: Showcase problem-solving ability along with strong communication, teamwork, leadership, and ethical values to work effectively in the Information Technology domain.
- PEO4: Pursue higher studies at reputed institutions globally, build careers in IT core companies and commit to lifelong learning.

Program Outcomes (POs)

On successful completion of the Programme, the Graduates will be able,

- PO1: **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2: **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.
- PO3: **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.
- PO4: **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.

- PO5: **Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- PO6: **The Engineer and The 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.
- PO7: **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.
- PO8: **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9: **Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10: **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.
- PO11: **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.
- PO12: **Life-Long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs)

PSO1: Acquire the basic knowledge of algorithms and recent tools for developing real-time software solutions related to the IT industry.

PSO2: Apply suitable methodologies and use innovative ideas to solve real-world complex problems in society.

PSO3: Be a competitive employee in the industry or an IT entrepreneur to face local and global challenges.

Department Highlights

The Department of Information Technology (IT), established in 1997, has evolved into a dynamic academic and research community with a student strength of 190. The Department is equipped with state-of-the-art laboratories and is supported by a highly qualified and dedicated faculty team of 15 members. Students actively participate in professional bodies such as CSI, IEEE, enhancing their technical and professional competencies. The Department regularly organizes technical events, workshops, seminars, hackathons, and coding competitions, and its students consistently demonstrate excellence through notable academic and extracurricular achievements at regional, national, and international levels. The Department maintains an outstanding placement record, with students recruited by leading multinational companies including Amazon, Cisco, Accenture, Capgemini, Virtusa, Wipro, ZOHO, KAAR Technologies, TCS, Microsoft, Infosys, Cognizant, HP, and Verizon. Faculty and students actively contribute to high-quality research publications in reputed journals and conferences, strengthening the Department's research culture. Additionally, the Department publishes two issues of its newsletter every year, showcasing technical events, student achievements, student placement highlights, and research contributions. For further details, visit www.veltech.edu.in/it/.

VOICES OF OUR COMMUNITY



**Mrs.J.Deepa,
TTS 2645**

Faculty Message

Teaching in Information Technology today goes beyond delivering subject knowledge. It is about helping students connect concepts with applications, encouraging curiosity and building the confidence to solve unfamiliar problems. During 2022–2023, our students benefited from workshops, coding events, research presentations, industry training and project-based learning. Such experiences enable learners to understand how classroom knowledge translates into real-world technology solutions. As faculty members, we remain committed to mentoring students with academic rigour, professional values and a spirit of continuous learning.

Alumni Message

**Name: Sai Hemanth,
Year of Passing: 2020,
Department: Information Technology,
VTU No: VTU7031,
Organization Name: Sprinto,
Designation: Technical Account Manager**



My journey in the Department of Information Technology played an important role in shaping both my technical foundation and professional outlook. The academic environment, project experiences, presentations, faculty guidance and peer learning helped me develop problem-solving skills, confidence and the ability to adapt to new technologies. As a Technical Account Manager at Sprinto, I continue to see the value of strong technical fundamentals, effective communication and continuous learning in professional life. My message to current students is to make the most of every opportunity available during college. Participate in projects, technical events, internships and team activities, and develop the confidence to communicate your ideas clearly. Technology evolves rapidly, but curiosity, adaptability, teamwork and a willingness to keep learning will always remain valuable. I encourage students to build strong fundamentals, explore real-world problems and continuously upgrade their skills as they prepare for their professional journey.

Current Student Message

Name: Vishal Dev,
VTU No: VTU12428



Being a student of Information Technology has given me opportunities to learn beyond the classroom through workshops, hackathons, coding competitions, project activities and technical events. These experiences have helped me improve my problem-solving skills, teamwork and confidence. The support of faculty mentors has encouraged us to explore new technologies and participate in competitions and research activities. I look forward to using these opportunities to build stronger technical skills and contribute innovative ideas in the years ahead.

Editorial Note

The Editorial Team is pleased to present the Department of Information Technology Annual Magazine 2022–2023. This issue records the department's major academic events, student achievements, faculty contributions, research initiatives, skill-development activities and moments of community engagement. We thank the faculty members, students, alumni and contributors who supported this compilation. We hope the magazine serves both as a record of the year and as an inspiration for future academic and professional accomplishments.

DEPARTMENT AT A GLANCE



ICRTITA'22 – Flagship International Conference

The Department of Information Technology, School of Computing, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology organized the International Conference on Recent Trends in Information Technology and its Application (ICRTITA'22) on 29 and 30 August 2022. The conference brought together academicians, researchers, industry professionals and students to exchange knowledge and present research in emerging areas of Information Technology.

The technical themes included Artificial Intelligence, Deep Learning, Data Science, Cloud Computing, Computer Vision, Internet of Things, Blockchain, Cyber Security, Robotics, Quantum Computing, Augmented and Virtual Reality, Wireless Communication and related areas. Outstanding research contributions were recognized through Best Paper Awards in the technical sessions.





Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Instituted in the University Rank, as 1 of 1000, July, 1990)

Great honor and pleasure to invite you to
participate in the International Conference on Recent Trends
in Information Technology and its Application

ICRTITA'22
29-30 AUGUST 2022 & 31-01-2023

Call for Papers

- Augmented and Virtual Reality
- Blockchain Technology
- Cloud Computing
- Computational Intelligence
- Computer Vision
- Data Analytics
- Data Sciences
- Deep Learning and Artificial Intelligence
- Edge & Fog Computing
- High Performance Computing
- Human Computer Interaction
- Image Processing
- Internet of Things
- Machine Learning
- Quantum Computing
- Remote Sensing and GIS
- Robotics and Automation
- Security & Cryptography
- Social Networking
- Wireless Communication

Register Now

<https://www.veltech.edu.in/icrtita/>

Contact
No.42, Avadi-Vel Tech Road, Vel Nagar, Avadi,
Chennai – 600 062, Tamil Nadu, India.
Tollfree: 1800 2127 669

Research Contributions and Recognition at ICRTITA'22

ICRTITA'22 provided an opportunity for members of the department to showcase research contributions and engage in scholarly discussion. V. R. Saravana Perumal presented the paper titled “Regional Stores Products Recommender Using Attention-Based Long-Term Short-Term Memory.” Mr. Prashant Kumar Singh received the Best Paper Award for the paper titled “Real Time Face Mask Detection Using MobileNetV2 Algorithm.”

The conference was supported by faculty members from the Department of Information Technology along with external academicians and subject experts who contributed to the technical review process. Their collective involvement in evaluating research submissions strengthened the quality of the technical sessions and reflected the department's active engagement in scholarly review, research dissemination and academic collaboration.



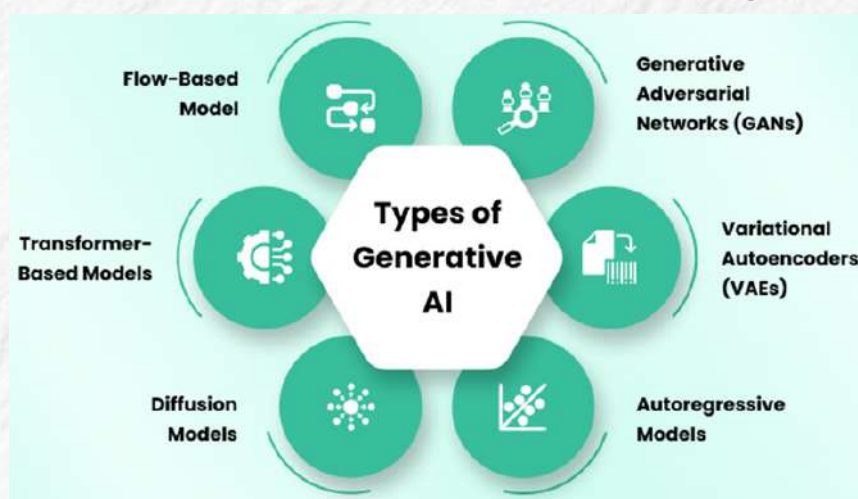
Smart India Hackathon 2022 – Student Mentoring

25 August 2022

Mrs. D. Ramya guided students in identifying and submitting a suitable problem statement for Smart India Hackathon 2022, an innovation initiative under the Ministry of Education, Government of India. Her mentoring supported the students in understanding the problem requirements, refining their proposed ideas and preparing the submission for the national-level innovation challenge.

Student Contribution

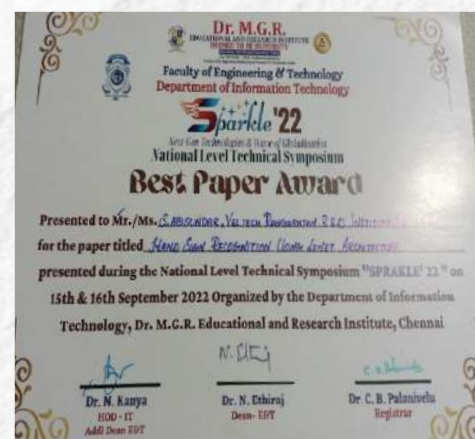
Generative Artificial Intelligence (Generative AI) has emerged as one of the most transformative areas of modern computing, enabling machines to create new content such as text, images, audio, video, computer code and other forms of digital content. At the foundation of many modern generative AI applications are Large Language Models (LLMs), which are trained on large collections of data to understand and generate human-like language. Together, Generative AI and LLMs are changing how people interact with technology, develop software, access information and automate knowledge-based tasks.



Best Paper Award – SPARKLE'22 National Level Technical Symposium

15–16 September 2022

Mr. Abusundar received the Best Paper Award at SPARKLE'22 – National Level Technical Symposium, organized by the Department of Information Technology, Faculty of Engineering & Technology, Dr. M.G.R. Educational and Research Institute, Chennai. He presented the paper titled “Hand Sign Recognition Using LeNet Architecture.” The recognition highlighted the student’s interest in Deep Learning and its application in intelligent hand-sign recognition systems.



Resource Person – Role of Machine Learning in Medical Image Processing

06 October 2022

Dr. D. Sugumaran delivered a webinar on “Role of Machine Learning in Medical Image Processing”, organized by the Department of Information Technology, Kings Engineering College, Irungattukottai, Sriperumbudur, Chennai. The session focused on applications of Machine Learning techniques in medical image analysis and highlighted the growing role of Artificial Intelligence in healthcare-related technologies.

Faculty Resource Person – Machine Learning and Deep Learning

11–15 October 2022

Dr. C. Mahesh contributed as a Resource Person for a programme on “Machine Learning and Deep Learning” organized by SRM Institute of Science and Technology, Chennai, from 11 to 15 October 2022. The academic engagement facilitated knowledge sharing in contemporary areas of Artificial Intelligence, Machine Learning and Deep Learning and strengthened the department’s external academic outreach.

Resource Person – Multidisciplinary Research

04 November 2022

Dr. J. Visumathi delivered a session on “Multidisciplinary Research” at PACE Institute of Technology and Sciences, Andhra Pradesh. The session highlighted the importance of integrating knowledge from different disciplines and encouraged participants to explore collaborative research opportunities across diverse fields.

One Day Guest Lecture on Data Analytics

04 November 2022

The Department of Information Technology organized a One Day Guest Lecture on “Data Analytics” for B.Tech. Information Technology students. The session was delivered by Dr. E. Sivasankar, Associate Professor, National Institute of Technology Tiruchirappalli. Students were introduced to Artificial Intelligence, Machine Learning and Data Analytics, including K-Means, K-Medoids and DBSCAN, along with supervised and unsupervised learning approaches.

Real-world examples and case studies helped students understand practical applications, and the session concluded with guidance on career opportunities in Data Science and Analytics.



Intelligent Innovators Hackathon – Academic and Innovation Engagement

04–05 November 2022

Mr. R. Pushpakumar participated in the Intelligent Innovators Hackathon conducted at Sri Eshwar College of Engineering on 04 and 05 November 2022. The activity provided exposure to innovation-driven problem solving and hackathon-based learning and encouraged the development of creative and solution-oriented approaches to engineering challenges.

Guest Lecture – Machine Learning and its Applications

17 December 2022

Dr. S. Jagadeesh delivered a guest lecture on “Machine Learning and its Applications” at the University College of Engineering, Panruti. The session introduced students to fundamental Machine Learning concepts, practical applications and real-world examples, enabling learners to understand how Machine Learning techniques can be used across different application domains.



Lavaza 2K23 - HackIT: Student Prize Winners

09-11 February 2023

Students of the Department of Information Technology demonstrated their problem-solving and technical skills at HackIT, conducted as part of Lavaza 2K23 at Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology. Mr. Prashant Kumar Singh secured First Prize, while Mr. Punith E secured Second Prize. The achievement reflected the students' enthusiasm for coding, innovation and competitive technical challenges.



TECHgium - 6th Edition: Industry Innovation Recognition

12 February 2023

Mr. Punith E and Mr. M. Mohammed Muzameel Hussain received Certificates of Recognition in TECHgium - 6th Edition, an industry innovation initiative of L&T Technology Services. Their concept, “Speech Recognition Solution by Forecasting Hidden Unit of BERT by Constraint Module,” showcased their interest in Artificial Intelligence and speech-processing applications and provided valuable exposure to industry-driven innovation.



IFERP Project Competition 2023 – Student Project Presentation

12 February 2023

Students Mohamed Fazil A, Tajunissa K and Muhammed Ajnas D. P. presented the project titled “Monitoring System for Increasing Crop Yield Production” in the idea phase of the IFERP Project Competition 2023 held at SRM Institute of Science and Technology. The participation encouraged students to transform technical ideas into practical solutions addressing real-world agricultural needs..



Social Outreach – Blood Donation Awareness

01 March 2023



Mr. Sala Mohan Sai Vikas received appreciation for creating awareness and mobilising voluntary blood donors. The recognition highlighted the importance of social responsibility and student participation in community-oriented initiatives beyond academics.

Hackerz'23 – Technical Participation

17 March 2023

Ms. Varshini Priya P. J. participated in “Duo Developers” at Hackerz'23, organized by Chennai Institute of Technology. The technical event provided an opportunity to test programming and problem-solving abilities in a competitive environment and encouraged.



One Day Workshop on User Experience (UX) Design

31 March 2023

The Department of Information Technology organized a One Day Workshop on “User Experience (UX) Design” on 31 March 2023. The session was handled by Mrs. Abisha N., Senior User Experience Designer, Cognizant Technology

Solutions, Chennai. A total of 54 students participated in the workshop. The programme introduced Design Psychology, Research Methods, Information Architecture, Wire-framing, Prototyping, Interaction Design, Inclusive Design and basic UI development. Through activity-based learning, students gained an understanding of how user needs are translated into effective interfaces and meaningful digital experiences.



One Day Workshop on Industrial Internet of Things with Real-Time Application Using IoT Cloud

13 April 2023

The Department of Information Technology organized a One Day Workshop on “Industrial Internet of Things with Real-Time Application Using IoT Cloud” on 13 April 2023. The session was delivered by Mr. Donald Jose Patris, Digital Solution Architect, NTT DATA, Chennai. Students were introduced to IoT fundamentals, communication protocols, design and development approaches, cloud support

services and real-time Industrial IoT applications. Practical examples helped participants understand the connection between IoT devices, cloud platforms and industry use cases. The session also provided guidance on career opportunities in IoT and Cloud technologies.




Vel Tech
Rangarajan Dr. Sugunthala
VELT Institute of Science and Technology
Established in the University Rank 1st of 1000 in 2004

School of Computing
Department of Information Technology

Cordially invites you for
One Day Workshop
 on

**INDUSTRIAL INTERNET OF THINGS WITH
 REALTIME APPLICATION USING IOT CLOUD**



13th April, 2023

09.45 am to 12.45 pm

Block 4,
Dr.A.P.J. Abdul Kalam Hall | 4103

RESOURCE PERSON

Mr. Donald Jose Patris
Digital Solution Architect
 NTT DATA

Event Coordinators
Dr. N. Noor Aileen
Associate Professor - IT
Dr. S. Jagadeesh
Associate Professor - IT
Vel Tech

In the presence of
Col. Prof. Vel. Dr. R. Rangarajan
Chancellor & Founder President - Vel Tech
Dr. Sugunthala Rangarajan
Foundress President - Vel Tech
Prof. S. Sathyanarayanan
Vice Chancellor - Vel Tech

Convenor
Dr. V. Srinivasa Rao
Dean - School of Computing
Vel Tech

Head of the Department
Dr. J. Vijumathi
Professor & Head / IT
Vel Tech

IEEE

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Statistical Approaches to Data Analysis

21 March 2023

Dr. M. Dhilsath Fathima delivered a resource-person session titled “From Data to Decisions: Statistical Approaches to Data Analysis” at Park College of Engineering and Technology, Coimbatore. The session focused on the role of statistical methods in interpreting data and supporting informed decision-making, that helped students to engage with peer learners from other institutions.

IEEE International Conference – Academic Engagement

19-21 April 2023

Dr. J. Visumathi contributed to the IEEE International Conference on Advances in Electronics, Communication, Computing and Intelligent Information Systems, held at Bangalore Institute of Technology in association with the IEEE Bangalore Section, from 19 to 21 April 2023. The engagement strengthened academic networking and knowledge exchange in emerging areas of computing and intelligent information systems.

CODEATHON - April 2023: First Prize

April 2023

Mr. Prashant Kumar Singh secured First Place in the April 2023 edition of Vel Tech CODEATHON, organized by the Office of Campus to Corporate, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology. He received a cash prize of Rs. 5,000 in recognition of his performance in the coding competition. The achievement marked another notable success in the department's competitive programming activities.



Faculty Development Programme – Big Data Analytics

10–14 May 2023

A Faculty Development Programme on “Big Data Analytics” was conducted from 10 to 14 May 2023 with Mr. M. Sathis of Netwrap Software Solution, Chennai, as the resource person. The programme focused on contemporary concepts and practices in Big Data Analytics and provided participants with exposure to data-driven technologies and their applications. The programme recorded 20 participants.

Faculty Development Programme – Data Analytics

15–26 May 2023

A Faculty Development Programme on “Data Science” was conducted from 15 to 26 May 2023. Mr. K. Balachandar, Technical Architect, Incedo Technical Solution, Chennai, engaged the participants with current concepts, tools and practices in Data Science. The pro-gramme supported continuous faculty development and recorded 42 participants.

Machine Learning Training – Punith E

21 May 2023

Mr. Punith E successfully completed a six-week Machine Learning training programme and scored 85% in the final assessment. The programme strengthened his understanding of Machine Learning concepts and complemented classroom learning with structured online training.



Machine Learning Training – M. Mohammed Muzameel Hussain

24 May 2023

Mr. M. Mohammed Muzameel Hussain successfully completed a six-week Machine Learning training pro-gramme. The training provided additional exposure to Machine Learning, Python, data exploration, regression, decision trees, ensemble models and clustering.



Internship & Job Preparation Training – Punith E

27 May 2023

Mr. Punith E successfully completed a four-week Internship & Job Preparation training pro-gramme and achieved a score of 100%. He was also recognised as a top performer. The pro-gramme strengthened essential career-readiness skills and supported preparation for internship and employment opportunities.

ATOS Robust Integrated Skill Enhancement (ARISE) - Faculty Development

29 May–05 June 2023

Faculty members of the Department of Information Technology participated in the ATOS Robust Integrated Skill Enhancement (ARISE) programme across specialised technology domains. The areas included Web and Mobile Application Development, Middleware, Networking and Wireless Communications, Unix Operating Systems, Cloud Computing and Application Modernization Services. The industry exposure supported faculty members in strengthening practical knowledge and applying contemporary industry practices while mentoring students for major and minor projects, technical skill development and placement preparation.



Faculty Skill Areas

Faculty	Skill Area	Dates
Dr. S. Jagadeesh	Web & Mobile Application Development; Middleware	29 May–02 Jun 2023
Mr. K. Durairaj	Networking; Wireless Communications	29 May–02 Jun 2023
Mrs. J. Deepa	DCH; Unix Operating System	29 May–02 Jun 2023
Mrs. D. Ramya	Cloud Computing	29 May–05 Jun 2023
Mrs. Lijetha C. Jaffrin	Application Modernization Service	31 May–03 Jun 2023
Mr. S. Pradeep Kumar	Web & Mobile Application Development; Middleware	29 May–02 Jun 2023

Faculty members contributed to prototype development in areas relevant to Information Technology, smart systems and sustainable applications. These initiatives demonstrated an emphasis on translating technical knowledge into practical solutions.

► **Automatic Authentic News Feed System**

Faculty: Dr. M. Dhilsath Fathima

The project focused on the design and development of an Automatic Authentic News Feed System, aimed at supporting reliable information delivery through intelligent computing techniques.

► **Smart Green House**

Faculty: Dr. Joe Dhanith

The Smart Green House: IoT-based Automated Climate Control System for Precision Agriculture applies IoT technologies to monitor and regulate environmental conditions for efficient and technology-enabled agricultural practices.

► **Blockchain-Based Smart Waste Management**

Faculty: Mrs. J. Deepa

The Blockchain-based IoT-enhanced Waste Collection Tracking System integrates Blockchain and IoT technologies to support transparent and efficient monitoring of waste-collection activities.

► **Soil Moisture Detection Using IoT**

Faculty: Mrs. Lijetha C. Jaffrin

The Soil Moisture Detection System Using IoT uses connected sensing technologies to monitor soil-moisture conditions and support informed irrigation and agricultural management.

Student Project Spotlight

Real-Time Face Mask Detection Using MobileNetV2

Student: Prashant Kumar Singh

Guide: Dr. M. Dhilsath Fathima, Associate Professor,

Objective

The project aimed to develop a real-time face mask detection system using the pretrained MobileNetV2 deep learning architecture. The proposed approach uses transfer learning to reduce model-training time while enabling effective learning even with a comparatively small image dataset.

Methodology

The system uses MobileNetV2, a lightweight Convolutional Neural Network suitable for efficient image-classification applications. The architecture incorporates convolutional layers, bottleneck residual blocks, average pooling and a fully connected layer for the final face-mask classification. A camera captures the face image in real time and the trained model processes the input to determine whether the person is wearing a face mask. The use of MobileNetV2 makes the system suitable for real-time applications because of its computationally efficient architecture.

System Components

The implementation uses a digital webcam/camera, computer and output mechanism together with the trained MobileNetV2 model. The processing flow consists of image acquisition, convolution-based feature extraction, bottleneck residual processing, average pooling and final face-mask detection.

Outcome

The project demonstrates the practical application of Deep Learning and Computer Vision for real-time face-mask identification. It highlights how lightweight pretrained neural-network architectures can be adapted through transfer learning to develop efficient real-time image classification solutions.

Project Highlight:

Application of MobileNetV2 and transfer learning for real-time intelligent face-mask detection.

Lifestyle Disease Influencing Attribute Prediction Using Novel Majority Voting Feature Selection

Students: Prashant Kumar Singh and Rehan Kamat

Guide: Dr. M. Dhilsath Fathima, Associate Professor,

Objective

The project focused on identifying the important attributes that influence lifestyle diseases, particularly heart disease and diabetes, and using these attributes to develop an intelligent prediction model. The work proposed a Novel Majority Voting Ensemble Feature Selection (NMVEFS) technique together with a modified Deep Neural Network for disease prediction.

Proposed Methodology

The proposed NMVEFS approach combines multiple feature-selection techniques to identify the most relevant attributes from heart-disease and diabetes datasets. The feature-selection methods considered include Information Value, Random Forest, Lasso Regression, Recursive Feature Elimination, Extra Trees Classifier and Chi-Square-based feature selection.

Instead of depending on a single feature-selection technique, the majority-voting mechanism combines the predictive capability of different methods to select influential attributes. These selected attributes are subsequently provided to a modified Deep Neural Network (DNN) for lifestyle-disease prediction.

Deep Learning Model

The modified DNN architecture uses a sequence of hidden layers with appropriate activation, normalization and dropout mechanisms to learn complex relationships within the medical data. The model is designed to process the selected health attributes and support the prediction of lifestyle-disease conditions.

Experimental Outcome

The results displayed in the project demonstrate an improvement in prediction performance after modification of the Deep Neural Network architecture. The reported model accuracy increased across training epochs, reaching approximately 97.5% at 300 epochs, compared with 75.3% for the default DNN configuration at the same number of epochs.

The modified model also showed a reduction in the reported execution time, indicating that the combination of ensemble-based feature selection and the modified DNN can support efficient analysis of heart-disease and diabetes-related data.

Research Contribution

The main contribution of the work is the integration of ensemble feature selection with Deep Neural Networks for identifying important lifestyle-disease attributes and improving prediction performance. The approach demonstrates the potential of Machine Learning and Deep Learning techniques in developing data-driven clinical decision-support applications.

Magazine Highlight: Ensemble feature selection combined with Deep Learning achieved a reported maximum prediction accuracy of 97.5% in the presented experimental results.

Intellectual Property Initiative

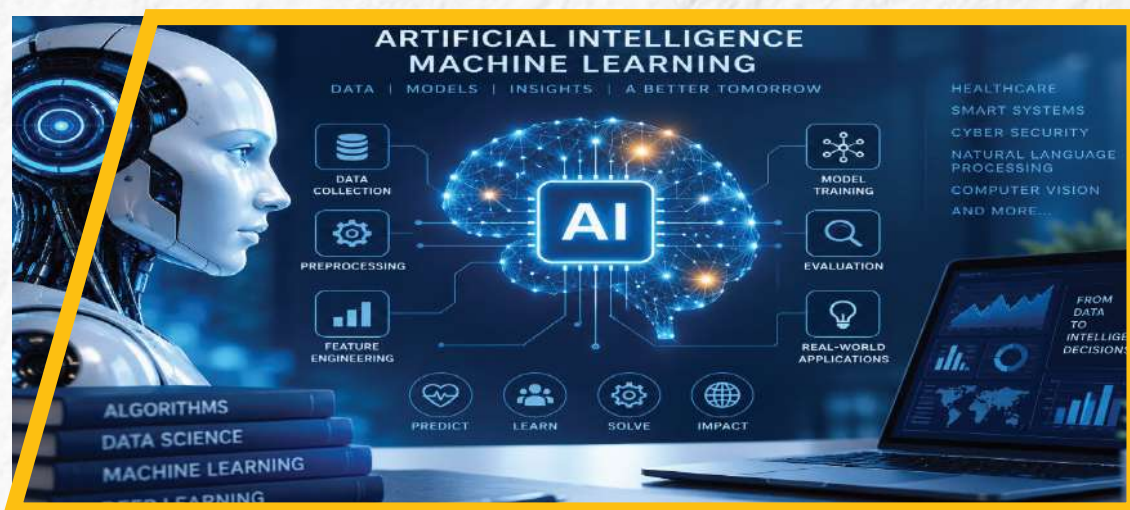
Dr. J. Visumathi – “Cloud based Emergency Patient Monitoring System”, Application / Patent No. 202241010461. For the 2022–23 magazine, present this only as an intellectual-property / patent-application initiative from the period. Do not describe it as a patent granted during 2022–23, since the supplied record shows a later grant date.

Artificial Intelligence in Everyday Life

Artificial Intelligence is no longer limited to research laboratories or large technology companies. It is now part of many everyday services, from recommendation systems and voice assistants to navigation, fraud detection and medical decision support. At its core, AI enables computer systems to identify patterns, learn from data and make useful predictions or decisions.

For Information Technology students, understanding AI is valuable because it brings together programming, data handling, mathematics and problem solving. A strong foundation in Python, data structures, probability and Machine Learning can help students move from using AI tools to building intelligent applications. Equally important is the responsible use of AI. Future professionals must consider fairness, privacy, transparency and the social impact of automated decisions.

The most effective way to learn AI is through small projects: classifying images, predicting trends, analysing text or building simple recommendation systems. These activities help connect theory with real-world applications and encourage students to think critically about both the possibilities and limitations of intelligent technologies.



From Connected Devices to Intelligent Systems

The Internet of Things connects physical devices such as sensors, appliances, machines and vehicles to digital platforms. These connected devices collect data, communicate through networks and support real-time monitoring and automation. When IoT is combined with cloud computing, organisations can store large volumes of device data, analyse it remotely and build scalable applications.

IoT applications can be seen in smart agriculture, healthcare, energy management, industrial automation and smart cities. For example, a soil-moisture sensor can collect field data, transmit it to a cloud platform and trigger irrigation when required. The same basic idea can be extended to complex industrial systems.

Security is a critical part of every connected system. Strong authentication, secure communication, timely software updates and responsible data handling are essential to reduce risk. Students who develop skills across IoT, networking, cloud platforms and cyber security will be well positioned to contribute to the next generation of connected and intelligent applications.



Student Voice & Creative Corner

Student Reflection

Technical education becomes more meaningful when students are given opportunities to experiment, present ideas and learn from experience. Hackathons, coding contests, workshops and project competitions during 2022–2023 helped students move beyond textbook learning and develop confidence in teamwork, communication and problem solving. Every competition did not need to end with a prize; the process of preparing, presenting and improving an idea was itself an important part of learning

Alumni Corner



Name: Vishnukumar

Year of Passing: 2017

Department: Information Technology

VTU No: 4001

Organization Name: Bank of America

Designation: Software Engineer

Alumni Reflection – Vishnukumar, VTU No: 4001, Year of Passing: 2017

My experience in the Department of Information Technology provided me with a strong technical foundation and helped shape my professional journey. The academic learning, project activities, faculty guidance and interaction with fellow students encouraged me to strengthen my problem-solving ability, communication skills and confidence. Working as a Software Engineer at Bank of America has shown me the importance of strong programming fundamentals, adaptability and continuous learning. Technology keeps evolving, and professionals must be ready to learn new tools, frameworks and approaches throughout their careers.

My message to current students is to make the best use of their college years by strengthening their fundamentals, working on practical projects, participating in technical activities and developing good communication and teamwork skills. Consistent learning, discipline and a willingness to take on new challenges can help students build a successful and rewarding career in the technology industry.



Name: Ankit Pradhan

Year of Passing: 2022

Department: Information Technology

VTU No: 11324

Organization Name: SuperAGI

Designation: Product Specialist

Name: Soumik Datta

Year of Passing: 2022

Department: Information Technology

VTU No: 11765

Organization Name: Verizon

Designation: Engr II Full Stack



The department continued to encourage students to build industry-relevant skills through coding practice, certified online training, technical competitions, project work and career-preparation activities. The CODEATHON events, Industrial training programmes and faculty participation in industry-linked skill enhancement contributed to a broader culture of employability and continuous learning.

Insert 2022–23 Placement & Internship Statistics

- ▶ Number of Students Placed, Higher Studies and Entrepreneurship: Around 45 out of 69
- ▶ Highest Package: 12.0 LPA
- ▶ Average Package: 4.0 LPA
- ▶ Major Recruiters: CTS, Infosys, IBM

THE YEAR IN NUMBERS

Indicator	2022–23
International / Major conferences	1 International Conference Conducted
Department Workshops / Guest Lectures	3 Workshops Conducted
Faculty Development Programmes	2 Department level FDPs
Prototypes / Innovations	4 Faculty Prototypes Recorded
Industry-linked faculty training	6 Faculty members in ATOS ARISE

Photo Gallery 2022 – 2023

ICRTITA'22 – Flagship International Conference





Smart India Hackathon 2022 – Student Mentoring



One Day Guest Lecture on Data Analytics



Lavaza 2K23 - HackIT: Student Prize Winners



One Day Workshop on User Experience (UX) Design



One Day Workshop on Industrial Internet of Things with Real-Time Application Using IoT Cloud



ATOS Robust Integrated Skill Enhancement (ARISE) - Faculty Development



EDITORIAL TEAM & ACKNOWLEDGEMENTS

Editorial Team

Dean / Chief Patron: Dr. V. Srinivas Rao

Head of Department: Dr. J. Visumathi

Faculty Editor(s): Mrs. J. Deepa, Mrs. D. Ramya

Student Editor(s): Prashant Kumar Singh, Dayashankar Baniya,
kamatham Sushma

Acknowledgement

The Department of Information Technology gratefully acknowledges the support of the University leadership, School of Computing, faculty members, students, alumni, resource persons, industry partners and all contributors who supported the academic and professional activities of the department during 2022–2023. Special thanks are extended to those who contributed reports, photographs, certificates and creative content for this annual magazine.

INTERNATIONAL CONFERENCE PAPERS & RESEARCH PROCEEDINGS – 2022–2023

One of the significant outcomes of the international conference was the dissemination of the research work presented by students and faculty members through the conference proceedings published by Taylor & Francis Group under the title **“Recent Trends in Computational Intelligence and Its Application.”**

The papers presented during the conference covered contemporary research areas including **Deep Learning, Computer Vision, Medical Image Analysis, Image Steganography, Machine Learning and intelligent prediction systems.** The proceedings provided a wider scholarly platform for the research contributions presented during the conference and strengthened the department’s engagement in academic publishing and research dissemination.

Notable research contributions included **“Swin Transformer Based COVID-19 Identification and its Severity Quantification,” “Real Time Video Instance Segmentation Using Mask RCNN,” “Convolutional Neural Network Based Image Steganography,” “Real Time Face Mask Detection Using MobileNetV2 Algorithm,” “Segmentation of Brain MRI Images Using U-Net,” and “Forecasting COVID-19 Cases Using Machine Learning,”** along with other research contributions presented by the students.

The conference proceedings were published by **Taylor & Francis Group** as **Recent Trends in Computational Intelligence and Its Application**, with the proceedings DOI **10.1201/9781003388913**. This publication outcome reflects the department’s commitment to encouraging students to move beyond project development towards **research presentation, scholarly publication and wider academic dissemination.**

In addition, a paper by Prashant Kumar Singh was presented and published in the Springer proceedings of **Advanced Network Technologies and Intelligent Computing (ANTIC 2022)**, further strengthening the department’s publication profile.

FACULTY RESOURCE PERSONS / INVITED ACADEMIC CONTRIBUTIONS – 2022–2023

Faculty	Contribution	Date	Host Institution / Location
Dr. D. Sugumaran	Role of Machine Learning in Medical Image Processing	06 Oct 2022	Kings Engineering College, Chennai
Dr. C. Mahesh	Machine Learning and Deep Learning	11–15 Oct 2022	SRM Institute of Science and Technology, Chennai
Dr. J. Visumathi	Multidisciplinary Research	04 Nov 2022	PACE Institute of Technology and Science, Andhra Pradesh
Dr. S. Jagadeesh	Machine Learning and its Applications	17 Dec 2022	University College of Engineering, Panruti
Dr. A. Peter Soosai Anandaraj	Next Generation Networking: 5G, Edge Computing and Beyond	04 Mar 2023	Ganapathy Chettiar College of Engineering and Technology, Ramanathapuram
Dr. M. Dhilsath Fathima	From Data to Decisions: Statistical Approaches to Data Analysis	21 Mar 2023	Park College of Engineering and Technology, Coimbatore
Dr. J. Visumathi	IEEE International Conference on Advances in Electronics, Communication, Computing and Intelligent Information Systems	19 Apr 2023	Bangalore Institute of Technology / IEEE Bangalore Section, Bengaluru

These invited academic contributions demonstrate the department's engagement with peer institutions and its commitment to sharing expertise in Machine Learning, Deep Learning, Data Analysis, Networking and multidisciplinary research.

FACULTY CERTIFICATIONS & PROFESSIONAL LEARNING 2022–2023

Faculty	Course / Certification	Provider	Status
Dr. J. Visumathi	User Interface (UI) Automation with Modern Design in Studio (v2022.10)	UiPath	Successfully Completed
Dr. J. Visumathi	UiPath Automation Explorer for Educators	UiPath	Successfully Completed
Dr. C. Mahesh	User Interface (UI) Automation with Modern Design in Studio (v2022.10)	UiPath	Successfully Completed
Dr. C. Mahesh	UiPath Automation Explorer for Educators	UiPath	Successfully Completed
Dr. N. Noor Alleema	Introduction to Internet of Things	NPTEL	Successfully Completed
Mrs. Lijetha C. Jaffrin	UiPath Automation Explorer for Educators	UiPath	Successfully Completed
Mrs. J. Deepa	User Interface (UI) Automation with Modern Design in Studio (v2022.10)	UiPath	Successfully Completed
Mrs. J. Deepa	UiPath Automation Explorer for Educators	UiPath	Successfully Completed
Mrs. D. Ramya	Excel Automation with the Modern Experience in Studio	UiPath	Successfully Completed
Mrs. D. Ramya	Explore Automation Development with UiPath Studio	UiPath	Successfully Completed

FACULTY PROFESSIONAL ENGAGEMENT, HACKATHONS & TRAINING – 2022–2023

Faculty	Activities Recorded for 2022–23
Dr. J. Visumathi	IFERP Project Competition 2023 – 12 Feb 2023; IEEE conference participation – 19–21 Apr 2023
Mr. R. Hariharan	TECHgium – 12 Feb 2023; Cisco Riders Contest – 14 Apr 2023; Texus Hackatoge – 15–16 Apr 2023; Coursera – 15 Apr 2023; Internshala – 24 May 2023; Lavaza 2K23 HackIT – 11 Feb 2023; LinkedIn Learning – 09 Jun 2023
Mr. R. Pushpakumar	Intelligent Innovators Hackathon – 04–05 Nov 2022; IFERP Project Competition – 12 Feb 2023; Lavaza 2K23 HackIT – 11 Feb 2023
Mrs. D. Ramya	Smart India Hackathon 2022 – 25 Aug 2022; TECHgium – 12 Feb 2023; Hackathon Cognizance 2023 – 24–26 Mar 2023; Coursera – 16 Apr 2023; Internshala – 24 May 2023
Mrs. J. Deepa	Hackerz'23 – 17 Mar 2023; Internshala – 24 May 2023; Coursera – 31 May 2023
Mrs. Lijetha C. Jaffrin	IFERP Project Competition – 12 Feb 2023; Internshala , – 24 May 2023

These activities reflect sustained faculty involvement in mentoring, innovation events, professional certification, industry-linked learning and external academic engagement.

Placed Student List 2022-2023

Sl. No.	Academic Year	Name of the Student	VTU No.	Company Placed	Package/ Annum
1	2022-23	Dayanand Kumar	11920	Logitech	9.9 LPA
2	2022-23	Chervirala Madhu	15305	OpenText	9.0 LPA
3	2022-23	Kambham Aneka	15097	OpenText	9.0 LPA
4	2022-23	Pavan Kalyan Chalavadi	13730	OpenText	9.0 LPA
5	2022-23	Sama Abhiram Reddy	13018	Movidu Technologies	7.0 LPA
6	2022-23	Kavya Choudary Kilari	13488	BNP Paribas	6.0 LPA
7	2022-23	Kacham Avinash	15237	Virtusa	5.5 LPA
8	2022-23	Naveen R	11083	Mu Sigma	5.0 LPA
9	2022-23	Surya Srinivasan	11513	Mu Sigma	5.0 LPA
10	2022-23	C.Naveen Raj	13773	Accenture	4.5 LPA
11	2022-23	Kervin Lara	11523	Accenture	4.5 LPA
12	2022-23	P.S.Karthiksrinath P.V.Sekar	11479	Accenture	4.5 LPA
13	2022-23	Praneeth Reddy Karra	15502	Accenture	4.5 LPA
14	2022-23	Davuluri Jagadeesh	13047	Skill Forge	4.3 LPA
15	2022-23	Irfan Basha Palagiri Shaik	12823	Capgemini	4.3 LPA
16	2022-23	Yaragarla Gopichand	11455	HCL Technologies	4.25 LPA
17	2022-23	Rishab K S	12651	MountBlue Technologies	4.0 LPA
18	2022-23	Sai Chandrika Nalabolu	13325	Coginzant	4.0 LPA
19	2022-23	Sumant Kumar	16155	Coginzant	4.0 LPA
20	2022-23	Annangi Ashok	13779	Cognizant, Hyderabad	4.0 LPA
21	2022-23	Jayarraman Muralimohan	12695	Innoppl IT Services	3.6 LPA
22	2022-23	Tamilarasan Perumal	13671	IBS Software	3.6 LPA
23	2022-23	Sahil Sinha	15261	Technic Service Provider	3.6 LPA
24	2022-23	Mallu Vamsi Varthan	13558	Geeky Works.	3.6 LPA
25	2022-23	Adithya Radha Krishna	13725	TATA ELXSI	3.5 LPA
26	2022-23	S.Rupesh Krishna	11888	Savvysoft Technologies	3.5 LPA
27	2022-23	Ajay Vadranam	13818	Maveric Systems	3.4 LPA
28	2022-23	Kalicharan Bharathi	13712	Medusind Solutions	3.4 LPA
29	2022-23	Boddennagari Guru Mohan	12824	Tech Mahindra	3.25 LPA
30	2022-23	Giri K	13023	HRU Entertainment Pvt. Ltd., Chennai	3.0 LPA
31	2022-23	Pavithran Suresh Kumar	11521	Concentrix	3.0 LPA
32	2022-23	Ramya R. M	12598	Concentrix	3.0 LPA
33	2022-23	Manbha Kharsyienlieh	11953	Sonicbolt Technologies	2.4 LPA
34	2022-23	S.Srinidhi	15106	Sitel Group	2.4 LPA

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School of Computing

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