

## Dr. Kavitha H

Affiliation: Associate Professor, Dept. of ISE, SIT

Contact: 9980168806

Email: hkavitha@sit.ac.in

Vidwan ID: 91025

Scopus ID: 57190176768

OrcID: 0000-0002-5677-2953

Faculty ID: SITF0280

### Education

	Degree	Year	Institute	Specialization
1	Ph.D.	2017	RNSIT, Visvesvaraya Technological University (VTU), Belagavi	Image Processing
2	M.Tech.	2007	JNNCE. Visvesvaraya Technological University (VTU), Belagavi	Computer Science
3	B.E.	1998	SJMIT, Kuvempu University	Computer Science

### Professional Experience

	Date (from-to)	Designation	Organization
1	2017 – Till date	Associate Professor	ISE Dept., SIT, Tumkur
2	2008 – 2017	Assistant Professor	ISE Dept., SIT, Tumkur
3	2004 – 2008	Lecturer	ISE Dept., SIT, Tumkur
4	2001 – 2004	Temporary Lecturer	ISE Dept., SIT, Tumkur
5	1998 – 2001	Lecturer	CSE Dept., SJM Polytechnic, Nelamangala

### Positions held

- VTU Board of Examiners (BOE) Member (2024-25)
- BOE/BOS Member SIT
- External BOE Member SSIT (2023 – to till date), RIT(2025)
- Convener, Department Advisory Board
- Member, Department Project Evaluation Committee, Department Seminar Evaluation Committee

- Various academic roles including Patent Coordinator, NBA/NAAC/TEQIP Coordinator, Internship coordinator, Test coordinator, Placement coordinator, Section coordinator etc.

#### Affiliations of Professional organizations

- Member of IAENG - 229136
- Member of ISTE - M-1535425
- Member of MIE
- Member of IFERP - PM9196000108
- Member of AMIEE - AMI/25/0853

#### Awards and Honors

- NPTEL Discipline Star (2025)
- Wipro Mission10X Excellence in Engineering Education (2010)
- Best Paper Awards at National & IEEE Conferences – 5 (2013(1), 2021(1), 2024(2),2025(1))
- Blue Prism RPA Foundation Educator Training (2020)
- Department Best Project Awards – 2 (2015-2020)

#### Courses Taught

##### Undergraduate Courses

- Object Oriented Programming
- Operating systems
- Database Management Systems
- Network Management
- Principles of programming languages
- Management Information systems
- Analysis and design of algorithms
- Computer Networks I
- Computer Networks II
- UNIX Programming
- Cryptography and Network Security
- Object-Oriented Analysis Design and Programming
- Object Oriented Modelling and Design
- Data Warehousing and Mining
- System Simulation and Modelling
- Cloud Computing
- Digital Image Processing
- Advanced Data Structure and Algorithms

- Web Technology
- UNIX and Shell Programming.
- Cyber Crime and Digital Forensics
- Big Data Analytics
- Advanced Web Technology and Internet Applications

#### Postgraduate Courses

- Cyber Crime and Digital Forensics
- Preserving and Recovering Digital Evidence
- File System Forensic Analysis
- Incident Response and Computer Forensic

#### Research Guidance

Sl. no	Name of the Scholar	Title	Year of completion
1	Prabitha B	Identification & Diagnosis of Neural Diseases (VTU)	Yet to complete by 2027
2	Jagadeshwari	Biometric Facial Recognition for Masked Faces (VTU)	Yet to complete by 2027
3	Ranjini H N	AI-Based Biometric Security for Smart Cities (VTU)	Yet to complete by 2027

#### Research Areas

- Image and Speech Processing
- Artificial Intelligence and Machine Learning
- Cyber security

#### Sponsored Projects

##### Completed Projects:

1. Title: Efficient utilization of used/waste flowers for useful products  
Funding Agency: IMPRESS, Govt. of India  
Amount: ₹12 Lakhs

Duration: 2019-22

Role: Project Director

## Publications

### Journals

- S. Mohana Kumar, B. J. Sowmya, H. Kavitha, S. Supreeth, and G. Shruthi, "A Deep Learning-Based Approach for Identification and Recognition of Criminals," *Int. J. Intell. Syst. Appl. Eng.*, vol. 11, no. 3, pp. 975–987, 2023.
- H. Kavitha and M. V. Sudhamani, "Experimental analysis of SIFT and SURF features for multi-object image retrieval," *Int. J. Comput. Vis. Robot.*, vol. 7, no. 3, pp. 344–356, 2017.
- H. Kavitha and M. V. Sudhamani, "Content-Based Image Retrieval Using Edge and Gradient Orientation Features of an Object in an Image from Database," *J. Intell. Syst.*, vol. 25, no. 3, pp. 441–454, 2016.

### Conference Proceedings

- H. Kavitha, K. S. Anudeep, K. M. Prajwal, H. Sireesh Gowda, and G. N. Venkateshprasad, "Finger Vein Recognition System Using Bilinear Fusion of Multiscale Features," in *Proc. 2nd IEEE Int. Conf. Data Sci. Netw. Secur. (ICDSNS)*, 2024, doi:10.1109/ICDSNS62112.2024.10690994.
- H. Kavitha, B. U. Nanditha, H. M. Rhuthika, M. Sinchana, and S. D. Sheregar, "Blood Group Detection using Hybrid Model," in *Proc. 15th Int. Conf. Adv. Comput. Control Telecommun. Technol. (ACT)*, 2024.
- H. Kavitha, Y. R. Darshan, S. Joshi, S. V. Nandeesh, and S. Hegde, "E-KYC Based on Blockchain Technology," in *Proc. 2nd IEEE Int. Conf. Data Sci. Netw. Secur. (ICDSNS)*, Tiptur, India, Jul. 26–27, 2024, doi:10.1109/ICDSNS62112.2024.10691164.
- N. Snehalatha, S. Mohana Kumar, H. Kavitha, P. Gowda, and S. Krishna Prasad, "Sign Language Detection Using Action Recognition LSTM Deep Learning Model," in *Proc. 2nd IEEE Int. Conf. Networks Multimedia Inf. Technol. (NMITCON)*, 2024, doi:10.1109/NMITCON62075.2024.10699301.
- M. S. Gowd, Thoufiqulla, and H. Kavitha, "Innovation Management—The Role of Incubation Centers," in *Proc. 14th Int. Conf. Adv. Comput. Control Telecommun. Technol. (ACT)*, 2023.

- H. Kavitha, M. Raj, S. Mohana Kumar, S. Shankar, and P. Dayananda, “An Automated Office and Vehicle Management System,” in Proc. 2023 IEEE Int. Conf. Network Multimedia Inf. Technol. (NMITCON), Bengaluru, India, Sep. 1–2 2023, doi:10.1109/NMITCON58196.2023.10276100.
- S. Mohana Kumar, H. Kavitha, K. Murthy, S. Nisha, P. Dayananda, and R. Manjunath, “Electronic Monitoring and Control of Environmental Parameters Using IoT,” in Proc. 2023 IEEE Int. Conf. Network Multimedia Inf. Technol. (NMITCON), Bengaluru, India, Sep. 1–2 2023, doi:10.1109/NMITCON58196.2023.10275984.
- V. Jain, H. Kavitha, and S. Mohana Kumar, “Credit Card Fraud Detection Web Application using Streamlit and Machine Learning,” in Proc. 2022 IEEE Int. Conf. Data Sci. Inf. Syst. (ICDSIS), Hassan, India, Jul. 29–30 2022, pp. 1–5, doi:10.1109/ICDSIS55133.2022.9915901.
- P. Darshini, S. Mohana Kumar, C. G. Raghavendra, H. Kavitha, and S. S. Divakara, “Cyber Security Threats Detection Analysis and Remediation,” in Proc. 2021 IEEE Mysuru Sub Section Int. Conf. (MysuruCon), Mysuru, India, Oct. 2021, pp. 766–772.
- K. D. Patel, M. G. Siddesh, A. Agarwal, M. B. Nirmala, and H. Kavitha, “Autonomous Malicious Video Content Categorization Using Convolutional Neural Networks,” in Proc. Int. Conf. Intelligent Computing and Control Systems (ICICCS), Madurai, India, May 2020, pp. 533–537, doi:10.1109/ICICCS48265.2020.91209
- H. Kavitha, U. K. Sinha, and S. S. Jain, “Performance Evaluation of Machine Learning Algorithms for Bitcoin Price Prediction,” in Proc. 4th Int. Conf. Inventive Systems and Control (ICISC), Coimbatore, India, Jan. 2020, pp. 110–114, doi:10.1109/ICISC47916.2020.9171147.
- H. Kavitha, M. N. Namitha, and H. M. Priyanka, “Access Control over Secured Data in Public Cloud Server,” in Proc. 2nd Int. Conf. Trends Electron. Inform. (ICOEI), Tirunelveli, India, May 2018, pp. 493–498, doi:10.1109/ICOEI.2018.8553813.
- H. Kavitha and M. V. Sudhamani, “Object Based Image Retrieval from Database Using Combined Features,” in Proc. 5th Int. Conf. Signal Image Process. (ICSIP), Bangalore, India, Jan. 2014, pp. 161–165, doi:10.1109/ICSIP.2014.6754870.

### **Book Chapters**

- H. Kavitha, M. Singh, S. K. Rai, and S. Biradar, “Smart Suspect Vehicle Surveillance System,” in Communication and Power Engineering, pp. 186–193, 2016.
- B. Prashanth and H. Kavitha, “An Analysis of Blockchain Technology: A Security and Privacy Perspective,” in Blockchain Technology and Applications, pp. 20–31, 2022, doi:10.1201/9781003355052.
- S. K. B. Swetha, V. K. C. Vishwanath, H. Kavitha, and M. P. M. Manasa, “Surveying on UBI-Based Smart Fish Farming Aquaculture Monitoring System,” in Futuristic

Trends in IoT, vol. 3, book 4, pt. 1, ch. 11, pp. 129–134, 2024, doi:10.58532/V3BDIO4P1CH11.

### Books

- R. S., G. Sasanko, C. Sekhar, C. Ronald, and H. Kavitha, Computational Intelligence – AI Modern Approach. Hyderabad, India: Scientific International Publishing House, 2022.

### Editorial

- H. Kavitha, Editorial Board Member, International Journal of Current Engineering and Scientific Research (IJCESR).

### Reviewer of Journals

- Evolving Systems (EVOS), Springer.
- Bentham Science Publishers.
- Journal of Intelligent Systems, De Gruyter.

### Patents

- H. Kavitha, “Neuromorphic Computing Device for High-Speed Data Analysis,” India Patent 418995-001, filed Jun. 4, 2024, granted and published Jul. 16, 2024.
- H. Kavitha, “Device for Biometric User Authentication Based on Behavioral Patterns,” India Patent 418994-001, filed Jun. 4, 2024, granted and published Jul. 16, 2024.
- H. Kavitha, “Automated Bug Detection and Repair in Software Using Deep Learning,” India Patent, filed Aug. 5, 2023, published Sep. 1, 2023.
- H. Kavitha, “Automatic Behavior Prediction for Rule-Based Data Processing Using Machine Learning,” India Patent 202341045224 A, filed Jul. 6, 2023, published Sep. 1, 2023, Ingeniouz Pvt. Ltd.
- H. Kavitha et al., “Power Train Using Multiple Power Sources with IoT-Based Notification,” India Patent, filed Jun. 15, 2023, published Aug. 18, 2023, Ingeniouz Pvt. Ltd.
- H. Kavitha et al., “Minimizing IoT Security Risks in an Era of Increasing Threats,” India Patent 202341037720, filed Jun. 1, 2023, published Aug. 18, 2023, Ingeniouz Pvt. Ltd.
- H. Kavitha et al., “AI and Wireless Based Smart Drug Prescription Management for Autonomous Drug Delivery System,” India Patent 202141046324, filed Oct. 11, 2021, published Oct. 29, 2021, Ingeniouz Pvt. Ltd.

- H. Kavitha et al., “Development of Big Data Analytics for Intelligent Industrial Manufacturing Based on IoT,” Australia Patent 2021101788, filed Apr. 7, 2021, granted and published May 26, 2021, Ingeniouz Pvt. Ltd.

#### Resource person for invited Lectures, talks and workshops

##### 2017

- Technical talk on ‘Cyber Crime and Forensics’ delivered at City Engineering College, Bengaluru, on 4th May 2017.

##### 2018

- Talk delivered during one-day workshop on ‘Orientation Programme for Fresher’s’ at Siddaganga Polytechnic, Tumakuru, on 11th July 2018.

##### 2019

- Technical talk on ‘Sorting Techniques’ delivered at R R Institute of Technology, Bengaluru, on 9th April 2019.

##### 2020

- Online technical talk on ‘Shortest Path Algorithms in Design and Analysis of Algorithms’ delivered for students of R R Institute of Technology, Bengaluru, on 29th June 2020.
- Online technical talk on ‘Insights to Applications of Digital Image Processing in Real-World Scenario’ delivered for students of Vidyavardhaka College of Engineering, Mysuru, on 5th December 2020.

##### 2021

- Keynote speech delivered to NGO women on the occasion of Women’s Day organized by Integrity Educational & Charitable Trust, Tumakuru, on 9th March 2021.
- Online technical talk on ‘Insight to Applications of User Interface Design from Industry Perspective’ delivered for students of Vidyavardhaka College of Engineering, Mysuru, on 26th May 2021.
- Resource person for four-day national level workshop on ‘Emerging Exponential Technologies – DS, AI, AR, VR and IoT’ organized online for students of Kalpataru Institute of Technology, Tiptur, from 20th to 23rd December 2021.

## 2023

- Resource person for two days in seven-day workshop on 'Introduction to C++ Programming' held from 22nd February to 1st March 2023 at Siddaganga Institute of Technology, Tumakuru.
- Resource person for six-day national level workshop on 'Cyber Security and Forensics' organized from 2nd to 6th May 2023 at Kalpataru Institute of Technology, Tiptur.
- Resource person for student induction program on 'Cyber Security' held on 14th September 2023 at Kalpataru Institute of Technology, Tiptur.

## 2024

- Resource person for four-day workshop on 'System Analysis, Development and its Model' during Management and Entrepreneurship Training at Kalpataru Institute of Technology, Tiptur, on 27th January 2024.

## 2025

- Resource person for three-day workshop on 'Information Technology Infrastructure' under theme 'Smart Logistics and IT for Future-Ready Managers' held at Kalpataru Institute of Technology, Tiptur, on 21st February 2025.
- Resource person for 'Orientation Programme for Fresher's' on 'Introduction to Cyber Security' held on 23rd June 2025 at Siddaganga Polytechnic, Tumakuru.