

Faculty Profile

Brief Profile (Few Paragraphs)



I am Dr. Hemavathy R is working as Professor in the department of Computer Science & Engineering at RVCE Bengaluru. Has 25 years of rich experience in teaching. Motivated and dedicated aspiring teacher with a strong passion for education and student development. Committed to creating inclusive, supportive, and engaging learning environments that encourage curiosity, critical thinking, and personal growth. Passionate about learning and dedicated to making a meaningful difference in students' lives.

My area of interests is Image Processing, Computer Vision, Database Design, Machine Learning and Artificial Neural Networks, have published more than 35+ papers in international, national journals, conferences. Worked on funded projects from Naval Research Board (NRB), NVIDIA Applied Research Accelerator Program, consultancy projects from Gnostice Information Technologies, Infer Quotient , Samsung etc. and have reviewed for many Inter-National, National Journals and Conferences.

Personal Information

- **Name:** HEMAVATHY R
- **Designation:** Professor
- **Department:** Computer Science & Engineering
- **Email:** hemavathyr@rvce.edu.in
- **Phone:** 9916104451

Google Scholar <https://scholar.google.com/citations?user=Bqh1yIsAAAAI&hl=en>

ORCID: <https://orcid.org/0000-0002-7586-7827>

Domain of Expertise

Research Focus

- **Primary Area:** [Computer Vision, Artificial Neural Networks, Deep Learning, Database Management Systems]
- **Allied Areas:**

- o Autonomous Vehicles, Video Analytics, image recognition, natural language processing, and speech recognition.

Academic Qualifications

- **Ph.D.:** [Computer Science & Engineering], [Visvesvaraya Technological University], [2018]
- **M.Sc./M.Tech:** [Computer Science & Engineering], [Visvesvaraya Technological University], [2006]
- **B.E./B.Tech:** [Computer Science & Engineering], [Bangalore University], [2000]

Professional Experience

Experience			
S.No	Institute/College/Industry	Job Title	Duration (From- To)
1.	Acharya Patashala College of Engineering, Bengaluru	Lecturer	11.9.2000 to 31.3.2006
2.	R.V. College of Engineering, Bengaluru	Professor	3.4.2006 to till date

Publications

Journal Publications

1. Hemavathy R, Rashmi G N, Shobha G, "Moving Object Segmentation from Underwater Videos Using Adaptive Collective Background Learning Approach", International Journal of Applied Engineering Research (IJAER) , SCI indexed – **Q4, EI** , ISSN:0973-4562, Vol. 11, No. 9, May 2016 , pp. 6651-6654.
2. Anala M. R., Hemavathy R., Shobha G, " Outcome Based Education: An empirical approach", Journal of Engineering Education Transformations , SCI indexed – **Q4**, Volume 28 , No.2 & 3 , Oct. 2014 & Jan. 2015 , ISSN 2349-2473,pp:92-97.
3. Hemavathy R, Srividya M S, Dr. Shobha G, "Underwater Video Processing For Detecting and Tracking moving Object", International Journal Of Engineering And Computer Science(IJECS), ISSN: 2319-7242, Vol. 3, No. 5, May 2014, pp. 5843-5847.
4. Hemavathy R, G Kala L, "A Review on Segmentation of Moving Object Under Dynamic Condition", International Journal of Computer Sciences and Engineering (IJCSE), ISSN- 2347-2693, Vol. 1, No. 3, Nov. 2013, pp. 26 – 31.

5. Hemavathy R, Dr. Shobha G , “Object Detection and Tracking under Static and Dynamic environment: A Review”, International Journal of Advanced Research in Computer and Communication Engineering(IJARCCE), ISSN- 2319-5940, Vol. 2, No. 10, Oct. 2013, pp. 4095 – 40100.
6. Hemavathy R, Dr. Shobha G, “Efficient Image Mining Techniques using Spatial Information”, International Journal of Science and Research (IJSR), ISSN: 2319-7064, Vol. 2, No.3, March 2013, pp. 345-349.
7. Hemavathy R, Dr. Shobha G, “Image Mining Techniques: A Review”, International Journal of Computer Science and Information Technology & Security (IJCSITS), ISSN: 2249-9555, Vol. 3, No.1, February 2013, pp. 72-75.
8. Hemavathy R, Rashmi G N, Shobha G, “Segmentation of Multiple Moving Objects in Underwater Dynamic Background”, International Journal of Computer Science and Information Security (IJCSIS), indexed in **DOAJ, Academic Database**. SCI indexed – **Q3**, ISSN: 1947-5500, Vol. 14, No. 11, Nov 2016, pp. 136-143.
9. Sindhu B Dinesh, Hemavathy R “ A review of stream processing platforms and techniques”, International Journal of Emerging Technologies and Innovative Research, May 2019, *UGC approved Journal* ,Volume 6, Issue 5, ISSN : 2349-5162.
10. Ramya Ramanathan, Ashmita Raju , Hemavathy R- “A Comparative Study of Spark Schedulers’ Performance”, International Journal of Emerging Technologies and Innovative Research(JETIR), *UGC approved Journal*, May 2019, JETIR209833, ISSN:2349-5162.
11. J Ramyashree, Hemavathy R “Improving Cyber Security using artificial intelligence” , International Research Journal Of Engineering And Technology(IRJET), *Open Access Journal* , May 2019, Vol 06, Issue 05, ISSN:2395- 0056
12. Hemavathy R, Shobha G, “ Tracking Objects on Detector Response using Extended Kalman Filter”, ‘International Journal of Engineering and Advanced Technology (IJEAT)’, ISSN: 2249-8958 (Online), Volume-9 Issue-4, April 2020, Page No. 1614-1620.
13. Parinith R Iyer, Anala. M. R, Hemavathy R, “Research Perspectives and Advancements in Open-Domain Chatbots’ ,International Journal of Engineering and Advanced Technology (IJEAT)’, ISSN: 2249-8958 (Online), Volume-9 Issue-4, April 2020, Page No. 1672-1678.
14. V Ganesh Tejas, Dr. Hemavathy, “ Microservices and its Intercommunication using Kafka “, International Research Journal of Engineering and Technology (IRJET), Volume: 07 Issue: 04 | Apr 2020, Page 5632, Page 5635
15. Vaishnavie Sangam, Rohan Sanghvi, Dr. Hemavathy , “A Review of Emerging Trends in Cloud Computing” , International Research Journal of Engineering and Technology (IRJET), Volume: 07 Issue: 05 May 2020 , Page 4214,Page 4217
16. Banknote Denomination Recognition on Mobile Devices Sohan M C¹, Akanksh A M, Anala M R and Hemavathy R © 2022 ECS - First International Conference on Technologies for Smart Green Connected Society 2021 **indexed in Scopus** , SCI indexed – **Q4** - The Electrochemical Society ECS Transactions, Volume 107, Number 1. <https://iopscience.iop.org/article/10.1149/10701.11781ecst/meta>

17. Roopesh P Alluri , Hemavathy R, “Diabetes Prediction Using Ensemble Techniques “ in International Journal of Applied Engineering Research (IJAER) Volume 16, Number 05 (2021)
<http://www.ripublication.com/Volume/ijaerv16n5.htm>
18. Isha B Rameshraj, Guransh Kaur Ghai, Hemavathy R, “Video Summarization Using Statistical Methods, in GIS Science Journal , Vol 8 , Issue 9, 2021
<http://gisscience.net/VOLUME-8-ISSUE-9-2021/>
19. Anshul Agrawal, Yash T Jain, Shravan Y R, Hemavathy R “Overview of Multicast Domain Name System” in International Journal of Scientific Research and Engineering Development— Volume 4 Issue 3, May-June 2021 – Impact factor 5.38, <http://www.ijsred.com/volume4-issue3-part14.html#>
20. K C Ganashree, R Hemavathy, M R Anala, Paper title “Land Scene Classification from Remote Sensing Images using Improved Artificial Bee Colony Optimization Algorithm “ got acceptance with all reviews and is available in early access issue with final and fully citable articles. SCI indexed - **Q3 Journal International Journal of Electrical and Computer Engineering (IJECE)** Vol. 14, No. 1, February 2024, pp. 347~357 ISSN: 2088-8708, DOI: 10.11591/ijece. v14i1.pp347-357.
<https://ijece.iaescore.com/index.php/IJECE/article/view/32305>
21. Pakruddin , Dr. Hemavathy R , title “ A comprehensive standardized dataset of numerous pomegranate fruit diseases for deep learning” , published in Data in Brief Volume 54,110284 March 2024, **Q2 SCI index journal**. <https://doi.org/10.1016/j.dib.2024.110284>.
22. Pakruddin, B. and Hemavathy, R. (2024). “Development of a Pomegranate Fruit Disease Detection and Classification Model using Deep Learning. Indian Journal of Agricultural Research.” doi:10.18805/IJARE.A-6281. **Q3 Journal** by ARCC. On 21st Oct 2024.
23. Pakruddin, B. and Hemavathy, R. (2024). “Performance Analysis of Various Deep Transfer Learning Models for Bacterial Blight Disease Detection and Classification in Pomegranate Fruits”, Indian Journal of Agricultural Research.” doi:10.18805/IJARE.A-6245. **Q3 Journal** by ARCC. On 22nd Nov 2024.

Conference Papers

1. Hemavathy R ,Rashni R, Pooja V, Dr. Shobha G ,”Segmenting of Object in postprocessing stage in Underwater Video Sequences Under Dynamic condition” 2015 IEEE International Advance Computing Conference will be held at B.M.S. College of Engineering, Bangalore, India on June 12-13, 2015 will be indexed in **IEEE Xplore Digital Library**.
2. M. R. Anala, R. Hemavathy and G. Shobha” Outcome Based Education: An Empirical Approach” Presented in 2nd International conference on Transformations in Engineering Education(ICTIEE-2015) held at BMSCE, Bengaluru on 7th and 8th of JAN 2015.
3. R Rohit, S Sachin, Dr.Shobha G, Hemavathy R, ”Performance comparison of Object tracking methods on video frames using parallel computing”, 2014 International Conference on Circuits, Communication, Controls and Computing (I4C), 21-22 Nov. 2014, Bangalore, India, pp. 357-362.
4. Hemavathy R, Dr. Shobha G, “Segmentation of objects in Dynamic environment using Color Space Features”, Second international conference on Emerging research on Computing, Information, Communication and Applications (ERCICA-2014), 1 -2 August 2014, Bengaluru, India, pp. 902-909.

5. Hemavathy R, Dr. Shobha G, Nagalakshmi C K, “ Moving Object Segmentation and tracking in video Sequence using Particle filter and Discrete Wavelet”, Eight National Conference on Networks, Intelligence and computing Systems(NCNICS'14), 15th March 2014, Coimbatore, Tamilnadu, pp. 165-171.
6. Hemavathy R, Dr. Shobha G, Pooja Ashok, “ Image Segmentation Problem and Approches Under Dynamic Conditions”, Eight National Conference on Networks, Intelligence and computing Systems (NCNICS'14), 15th March 2014, Coimbatore, Tamilnadu, pp. 192-195
7. Deeksha Nayak, Dr. Minal Moharir, Prof. Hemavathy R, “Economical and efficient Automated Toll System Using Raspberry Pi and Image processing”, National Conference On Leveraging Intelligent Transportation System For Enabling Smart Cities ITS-2017 on 2nd to 4th of March 2017 .
8. Amrutha Kulkarni, Hemavathy R, “SONAR Image Generation using Generative Adversarial Neural Networks”, National Conference on Knowledge Dissemination of PG, Jointly organized by Sustainability Management and Internal Quality Assurance Cell, 7-8 May 2018, RVCE
9. Ashmita Raju, Ramya Ramanathan and Dr. Hemavathy R, “ A Comparative Study of Spark Schedulers' Performance “, **4th IEEE International conference** on Computational Systems and Information Technology for Sustainable Solution (CSITSS-19) , at RV College of Engineering , 20-21st dec 2019.
10. Isha B Rameshraj, Guransh Kaur Ghai, Hemavathy R, present the paper titled “Video Summarisation using Hybrid Statistical Methods”, in SoCTA 2021, 6TH International Conference on Soft Computing: Theories and Applications Paper Will be indexed in **Scopus**.
11. Dr. Anala M R, Dr. Hemavathy R, Krishna Kulkarni and Samhitha A, Paper titled “Generative Adversarial Network (GANs) for Image Translation” presented paper in Twelfth International Conference on Computational Intelligence & Information Technology- CIIT2022, scheduled on 29th May, 2022 Kochi, India. “will be indexed in Scopus
12. Srikantha MI, Shrujan R, Hemavathy R, paper titles “Classification of Ragas of Indian Classical Music using RNN-LSTM” presented in **XIX Control Instrumentation Systems Conference (CISCON 2022)**, 28-29 October 2022 , Department of Instrumentation And Control Manipal Institute of Technology, Manipal, Udupi, will be published in proceedings with Springer in their “Lecture Notes in Electrical Engineering “.
13. Athreya Shet, Chinmay B S, Anvith Kumar A Shetty, Dr. P. Ramakanth Kumar, Hemavathy R and T Shankar,” Face Detection and Recognition in Near Infra-Red Image“, Conference paper presentation on 21st -23rd – 2022, 6th International Conference on Computation System and Information Technology for Sustainable Solutions (CSITSS), RVCE.
14. Nagendra N, Hemavathy R, paper titles “Unlocking Kubernets Networking Efficiency “ presented in 4th Global Conference for Advancement in Technology (GCAT) , 6th – 8th October 2023 , Department of Computer Science & Engineering , Nagarjun College of Engineering , Bengaluru under **IEEE** Bangalore Section.
15. Divya Maithreyi Tenneti, Divya A Kittur, Hemavathy R and T Shankar, Dr. P. Ramakanth Kumar, " Advanced Object Detection for Capsules and Tablets Identification through Deep Learning" presented at **7th IEEE International** Conference on Computational Systems and Information Technology for Sustainable Solutions-2023, R V College of Engineering - EEE Department on 03rd November 2023
16. Maitri V J, Jyothika K Raju, Dr. P. Ramakanth Kumar, Hemavathy R and T Shankar Real-Time Snake Detection with Alert System Using Deep Learning “,Seventh International Conference on Artificial

Intelligence and Soft Computing - AISC 2023 (will be published by the Grenze Scientific Society, and will be indexed in Scopus) Conference Organized in Kochi, Kerla on 27th October 2023. IDES and Association of Computer Electrical Electronics and Communication Engineers (ACEECom)

17. Pakruddin B, Hemavathy R, Paper title "A Systematic Review of Pomegranite Fruit Diseases Detection and classification", presented in 8th international conference on Information and Communication Technology For Competative Stategies. Organized by Global Knowledge research foundation & G R Scholastic LLP , Jaipur on 8th and 9th December 2023. will be published in Springer series. https://doi.org/10.1007/978-981-99-9486-1_13

R & Grants & Consultancy Projects

Ongoing & Completed Research Projects

- **A Study on Moving Object Detection from Underwater Video Sequences** – Funding Agency: Naval Research Board, New Delhi, Duration: 2014 to 2016, Role: Co-PI.
- **BatEYE – Monitoring Bat Habitat** – Funding Agency: NVIDIA – Accelerating Innovation in Applied Research program for Research project, Duration: [2022-2024], Role: Co-PI.

Ongoing & Completed Consultancy Projects

- Digitizer Engine – Funding Agency: Gnostice, Information Technologies private Limited, Bengaluru. Duration: 2014, Role: Co-PI.
- Change Detection in Geo Spatial images Funding Agency: Infer Quotient Pvt. Ltd. Duration: 2023
- Development of an Indigenous Method for Dynamic Image Analysis of Particle Size using Digital Image Processing Funding Agency: Cultural Instruments Pvt. Ltd Duration: 2024
- To design , implement and evaluate a solution that identifies planar surface in a 3D world for real-time AR application Funding Agency: Samsung Elite Worklet Duration: 2024
- Spatial photo expansion / edits for XR device – using GenAI – Funding Agency: Samsung Duration: 2024.

Professional Memberships

- MISTE , IETE , IEEE.

Student Supervision

- Ph.D. Candidates: [02]
- M.Tech/M.Sc. Students: [15]
- Undergraduate Research Mentees: [20]

Professional Roles

- Chair/Committee Member:
- Panelist and a member of Technical Advisory Committee in the **National Level Conference on Recent Innovation in Engineering** -2022 during 23rd and 24th June

2022 at K S Institute of Technology, Bengaluru.

- Mentored the participants in the MANAS Codeathon 2023 and participated in Symposium on "**Mental Health and Wellness**" **organized by Centre for Development of Advanced Computing (C-DAC)**, Bangalore under the aegis of Office of Principal Scientific Advisor (O/o PSA), Government of India (GoI) during 06th and 07th October 2023 at Bengaluru.
- Session Chair at the 8th IEEE International Conference on Computational Systems & Information Technology for Sustainable Solutions (CSITSS), held from 7th to 9th November, 2024. Organized by RV College of Engineering, Bangalore

Teaching

Core Courses: [Current semester]

- [CS222AI] [Principles of Programming using C]
- [IS364TA] [Software Engineering]

Advanced/Lab Courses:

- C Programming Lab
- Computer Graphics lab
- Database Management Systems Lab

Professional Roles

Responsibilities

- **Academic:** , Institution Industry Interaction committee member or coordinator, EDC cell coordinator, , Library book auditing work, Coordinator for Curriculum feedback committee, Parent Teachers meeting coordinator, Test Question paper Coordinator, currently coordinating Result analysis.
- **Administrative:** Examination unit work, Examination duty allotment , Member of BoE