

Dr.Shanta Rangaswamy

I bring over 25 years of enriching experience in academic teaching, along with 4 years of industry experience, creating a strong foundation for bridging theoretical knowledge with real-world applications. I have successfully led government-funded research projects from premier agencies such as DRDO, ISRO, and KFDCL, as well as consultancy projects for industry leaders like Samsung, CISCO, and others. My research interests are reflected in over 50 high-quality publications in reputed international journals and conferences. My work reflects a strong commitment to fostering research-driven learning, building industry-academia collaboration, and driving technological advancement through applied research and consultancy.

Faculty Photo

Personal Information

- **Name:** Dr. Shanta Rangaswamy
- **Designation:** Professor and Head
- **Department:** Computer Science and Engineering
- **Email:** shantharangaswamy@rvce.edu.in
- **Phone:** 080-68188199

[Google Scholar](#)/[researchgate.net](#)/ [ORCID](#)/[LinkedIn](#)

Domain of Expertise: Satellite imaging, Health care

Research Focus: Image processing, Machine Learning, Autonomic Computing

Primary Area: Neurological disorders, Intelligent Transport system

Allied Areas: Optical and SAR image processing, Genome data sequencing

Experience			
Sl. No	Institute/College/Industry	Job Title	Duration (From- To)
1.	RV College of Engineering	Professor and Head	15 th Jan 2025-till date
2.	RV College of Engineering	Professor	Feb 2022-14 th Jan 2025
3.	RV College of Engineering	Associate Professor	May 2014- Jan 2022
4.	RV College of Engineering	Assistant Professor	May 2009-April 2014
5.	RV College of Engineering	Senior Lecturer	Jan 2006-May 2009
6.	Surana College PG Centre, Bengaluru	Senior Lecturer	May 2004-Dec 2005
7.	Acharya Institute of Management and Sciences, Bengaluru	Senior Lecturer	June 2000-June 2003
8.	Philips Software Centre Pvt. Ltd, Bengaluru	Trainee Engineer	Sept 99-Dec 99

9.	ACA Pacific Pvt. Ltd., Brunswick, Melbourne, Australia	Technical Engineer	Feb 1996 - Dec 1996
10.	Sigma Systems and Services, Indiranagar, Bengaluru	Customer Support Engineer	Jan 2000-May 2000

Academic Qualifications

- **Ph.D.:** Computer Science and Engineering from Kuvempu University in 2014
- **M.Sc./M.Tech:** Software Systems from BITS Pilani in 2000
- **B.E./B.Tech:** Electronica Engineering from Marathwada University in 1993

Publications & Patents

Journal Publications

1. S. Manonmani, Shanta Rangaswamy, Advances In Deep Learning For Underwater Object Detection And Classification: Challenges, Architectures, And Applications, International Journal of Innovation Studies 9 (1) (2025) ISSN:2096-2487 / E-ISSN:2589-2975
2. Rangaswamy, S., Tantry, S.S. & Lal, T.S. Skin Disease Classification Using Deep Learning. *Natl. Acad. Sci. Lett.* (2024). <https://doi.org/10.1007/s40009-024-01523-z>
3. Manonmani Srinivasan, Shanta Rangaswamy and Ganesh N Naik “Classification of Underwater Mines with Convolutional Neural Networks”, ISSN: 2633-4828 Vol. 5 No.4, December, 2023
4. Srinivasan, Manonmani, Shanta Rangaswamy, and Mohamed Moin Irfan. "Synthetic Underwater Naval Mine Dataset Generation And Naval Mine Detection Using Custom CNN Model-Deep Neural Networks." International Journal of Applied Engineering & Technology, ISSN: 2633-4828 Vol. 5 No.4, December, 2023, pp 2064-2084
5. Mekhala Vinod Purohit, & Dr. Shanta Rangaswamy. (2024). Prediction Model, Sentiment Analysis And Recommendation System On Zomato Bangalore Dataset With XAI Tools Lime And SHAP. International Journal of Computer Science and Information Technology Research, 12(1), 7–15. <https://doi.org/10.5281/zenodo.10725858>. March 2024
6. Shreyasa Joshi, Pranamya Mady, & Shanta Rangaswamy. May (2023). Smart Traffic Signalling Using Computer Vision for Avoidance of Blind Spots. Journal of Transportation Engineering and Traffic Management, 4(2), 1–10. <https://doi.org/10.5281/zenodo.7949622>.(Scopus indexed)
7. Shanta Rangaswamy, Jinka Rakesh, Perla leela Charan, Deeptha Giridharan “Early and accurate diagnosis of a neurological disorder Epilepsy using machine learning techniques”, I.J. Information Technology and Computer Science, 2023, 2, 54-63, Volume 15 (2023), Issue 2, Published Online on April 8, 2023 by MECS Press (<http://www.mecspress.org/>),DOI: 10.5815/ijitcs.2023.02.05 (Scopus indexed)
8. Akanksha A. Pai, Harini K. S., Deeptha Giridhar, Shanta Rangaswamy, "Real Time Accident Detection from Closed Circuit Television and Suggestion of Nearest Medical Amenities", International Journal of Information Technology and Computer Science (IJITCS), Vol.15, No.6, pp.15-28, 2023. DOI:10.5815/ijitcs.2023.06.0 (Scopus indexed)

9. A M Naveen, Roopa Ravish, Shanta Rangaswamy "Distributional Reinforcement Learning For Automated Driving Vehicle" 2022 IEEE 2nd Mysore Sub Section International Conference (MysuruCon)DOI: [10.1109/MysuruCon55714.2022](https://doi.org/10.1109/MysuruCon55714.2022) 16-17 Oct. 2022.Published on 15th Dec 2022.
10. Bharath R, Shanta Rangaswamy, "A Survey Paper on Applications of RFIDs", GRADIVA REVIEW JOURNAL, ISSN NO : 0363-8057, VOLUME 8 ISSUE 12 2022,pp 436-443. <http://gradivareview.com/VOLUME-8-ISSUE-12-2022/>
11. Rangaswamy, Shanta and R, Bharath and P, Rahul, Real Time Face Mask Detection Using CNN. Available at SSRN: <https://ssrn.com/abstract=4139377> or <http://dx.doi.org/10.2139/ssrn.4139377> June 2022.
12. Pranav H, Revanth K, Shanta Rangaswamy, A Poster presentation during International Conference on AIMLBIO 2022 held during 8-10 Dec 2022, "Detection of Malarial Parasite in blood cell images using Machine learning Techniques to AIMLBIO-2022 (Artificial Intelligence and Machine Learning in Applied Biotechnology) on 8th Nov 2022.Paper id:43
13. Kshitij Agarwal, Kumar Ayush Sinha , Manan Sahu, Manav Dharora, Shanta Rangaswamy, "Detection of Neurological Diseases at an early stage using Deep learning approach", High Technology Letters, <http://www.gjstx-e.cn/gallery/44-sep2022.pdf>, Volume 28, Issue 9, Sept 2022, ISSN No : 1006-6748, pp 544-551
14. Roopa Ravish, Shanta Rangaswamy, Arpitha V & Vasuprada U (2022) User preference-based intelligent road route recommendation using SARSA and dynamic programming, Journal of Control and Decision, DOI: 10.1080/23307706.2022.2096705 . ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/tjcd20> (Q1 Journal), pp 1-12. Received 29 Jun 2021, Accepted 28 Jun 2022, Published online: 31 Jul 2022
15. Monish S, Mridul Mohta, Shanta Rangaswamy, "Ethereum Price Prediction using Deep Learning Techniques – A Comparative Study", International Journal of Engineering Applied Sciences and Technology, 2022 Vol. 7, Issue 2, ISSN No. 2455-2143, Pages 137-142 Published Online June 2022 in IJEAST (<http://www.ijeast.com>)
16. Lalitha V.P., Rangaswamy, S. Automatic object detection in aerial image using bent identity-convolutional neural network and fine-tuning algorithm. Multimed Tools Appl (2022). <https://doi.org/10.1007/s11042-022-11948-7> (Springer Nature, Q1 publication), pp.1-28. Published on 12th Feb 2022
17. Mahek Jain, Kushagra Sirothia, Shanta Rangaswamy "Real-Time Detection of Sign Language using Deep Learning" to Volume 21; Issue No. 2; Year 2021; IEEE International Journal of Imaging and Robotics, ISSN 2231–525X; Copyright © 2021 Nov 2021, pp 67-78. Indexed in Copernicus.
18. R. Ravish, S. Rangaswamy and K. Char, "Intelligent Traffic Violation Detection," 2021 2nd Global Conference for Advancement in Technology (GCAT), Nov 2021, pp. 1-7, doi: 10.1109/GCAT52182.2021.9587520
19. Thejas B U, Sreedhar S Dhulkhed, Jyoti Shetty, Shanta Ranga Swamy, "Poverty Detection using Satellite Imagery"5th International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) I-SMAC 2021, held in November 11-13, 2021 by SCAD Institute of Technology in Palladam,

India. IEEE XPLORE ISBN:978-1-6654-2642-8, 978-1-6654-2642-8/21/\$31.00 ©2021 IEEE, pp 1324-1329

20. Shanta Rangaswamy, Ramakanth Kumar P, Uma B.V., Subramanya KN “MOOCs-The way to go”, Journal of University of Shanghai for Science and Technology, ISSN: 1007-6735, Volume 23, Issue 8, August – 2021, pp881-884. <https://doi.org/10.51201/JUSST/21/08473>
21. Shajan, A. and Rangaswamy, S., June 2021. Survey of Security Threats and Countermeasures in Cloud Computing. United International Journal for Research & Technology (UIJRT), 2(7), ISSN:2582-6832, pp.201-207.
22. Sourabha M, Shanta Rangaswamy, ‘An overview of Network Time Protocol’, HTL Journal, Vol 27, Issue 6, June 2021, ISSN No:1006-6748, Impact factor:2.7,Peer review, International Journal, Certificate ID:HTL/5764. <https://doi.org/10.37896/HTL27.6/3704> (**Scopus Indexed, Q3 Journal**)pp 27-33
23. Arpitha V., Shanta Rangaswamy, A Survey on Low Power Clock Tree Design, HTL Journal, Vol 27, Issue 6, June 2021,ISSN No:1006-6748,Impact factor:2.7,Peer review, International Journal, Certificate ID:HTL/5781, <https://doi.org/10.37896/HTL27.6/3722> (**Scopus Indexed,Q3 Journal**)pp 240-251
24. Ravish Roopa and Shanta Ranga Swamy. "Intelligent Traffic Management: A Review of Challenges, Solutions, and Future Perspectives" *Transport and Telecommunication Journal* 22, no.2 (May 2021): 163-182. <https://doi.org/10.2478/ttj-2021-0013> (**Q2 Journal**) (**Scopus indexed, WoS**)
25. Roopa Ravish, Shanta Rangaswamy, Arpitha V., & Sourabha M . (2021). Novel Approach to Predict the Travel Time based on Historical Data using ML Techniques. *International Journal of Computer Science and Information Security*, IJCSIS ISSN 1947-5500, February 2021, Vol. 19 No. 2, pp 23-43, <http://doi.org/10.5281/zenodo.4577765>(Scopus indexed)
26. Ravish, R. and Rangaswamy, S. (2020), "Integrated mode of transport: A predictive model for route guidance", *International Journal of Intelligent Unmanned Systems*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJIUS-09-2020-0040> ISSN: 2049-6427. (**Scopus indexed, Q3 Journal**)
Publication date: 8 December 2020
27. Shanta Rangaswamy, “Bits or Qubits”, Seybold Report, Paper ID: SBR/0720-69, Volume 15-Issue 7- July 2020, S.No.49, ISSN: 1533 – 9211, pp 466-469.
28. Mathkunti, N.M., Rangaswamy, S. Machine Learning Techniques to Identify Dementia. *SN COMPUT. SCI.* **1**, 118 (2020). <https://doi.org/10.1007/s42979-020-0099-4>, published on 10 April 2020, *SN Computer Science* (2020) 1:118, © Springer Nature Singapore Pte Ltd 2020. **Peer reviewed**
29. Ravish R., Shenoy D.P., Rangaswamy S. (2020) Sensor-Based Traffic Control System. In: Mandal J., Mukhopadhyay S. (eds) *Proceedings of the Global AI Congress 2019. Advances in Intelligent Systems and Computing*, vol 1112. Springer, Singapore, DOI https://doi.org/10.1007/978-981-15-2188-1_17, First Online 03 April 2020, Pages 207-221. Published in **AISC Springer**.
30. Nagashree B.N., Shanta Rangaswamy, “A Review of Data Mining and its Methods Used in Manufacturing and How Warehousing Impacts Manufacturing”, *International Research Journal of*

31. Roopa Ravish, Varun R Gupta, Nagesh K J, Amruth Karnam, Shanta Rangaswamy, "Software implementation of an automatic movable road barrier", 2019 IEEE 53rd International Carnahan Conference on Security Technology (ICCST), held during 1-3rd Oct at Anna University, Chennai. Paper ID: 72, DOI: 10.1109/CCST.2019.8888417, Date Added to IEEE *Xplore*: 31 October 2019, Electronic ISSN: 2153-0742, Electronic ISBN:978-1-7281-1576-4, INSPEC Accession Number: 19113657
32. Manonmani S, Dr. Shanta Rangaswamy, Sagar K.H (2016-18) batch, Presented a paper on "Semantic Classification of urban trees using high resolution satellite imagery", paper ID: 105, to IEEE ICEECCOT-2018 at GSSSIT, Mysore, scheduled during 14-15 Dec 2018, pp161-166, 978-1-5386-5130-8/18/\$31.00 ©2018 IEEE
33. Manonmani S, Dr. Shanta Rangaswamy, Dhanush Kumar, Ishan S., Jonnalagadda A., Joshua I.,(8th semester students.(2014-18)), "2D to 3D Conversion Of Images Using Defocus Method Along With Laplacian Matting For Improved Medical Diagnosis" to JAIS, Journal of Applied Information Science. pp6-13, volume 6, Issue 2, Dec 2018, ISSN:2321-6115.<http://publishingindia.com/jais>.
34. Roopa R, Shanta Rangaswamy, presented a poster paper on "IoT Based Road Travel Time Detection" International Conference on Advances In Computing, Communications and Informatics, ICACCI-2018, held during 19-22 September 2018. DOI: 10.1109/ICACCI. 2018.8554804. Electronic ISBN: 978-1-5386-5314-2. <https://ieeexplore.ieee.org/document/8554804/authors#authors>
35. Manonmani S, Dr. Shanta Rangaswamy, "Comparative analysis of combining various enhancement filtering techniques for underwater images" Paper id 22, presented at IEEE-ICCPCT 2018, Vimal Jyothi Engineering College, Kerala during 23-24 March 2018.
36. Shanta Rangaswamy, Akshaya Kumara P B, Anilkumar Timmapur, Arunkumar R Naik, Basavaraj Navalagi, "Image Denoising and Segmentation Approach to Detect Tumor from BRAINMRI Images", Journal of Soft oft Computing and Applications, Volume 2018, No. 1 (April 2018), 51-59. <http://dx.doi.org/10.5899/2018/jsca-00103>. Paper ID: jsca-00103.
37. V. P. Lalitha, S. Rangaswamy, C. R. Gouthami, T. Jai Balaj, P. Kumar and R. G. Dolli, "Satellite Image Enhancement Using Neural Networks," 2018 3rd International Conference on Inventive Computation Technologies (ICICT), Coimbatore, India, IEEE Xplore Part Number: CFP18F70-ART; ISBN:978-1-5386-4985-5, pp. 211-215.
38. Amrutha Kulkarni, Shanta Rangaswamy and Manonmani S, "Comparative Study of Major Image Enhancement Algorithms", EJERS, European Journal of Engineering Research and Science Vol. 2, No. 7, July 2017 DOI: <http://dx.doi.org/10.24018/ejers.2017.2.7.389>

Conference Papers

1. Shanta Rangaswamy, Adarsh U, Budhil S, Neelesh T Rao and Sangeeta Prasad 3rd International Conference in Advances in Power, Signal, and Information Technology, (APSIT 2025), (at EEE Department, ITER, Siksha O **Anusandhan Deemed to be University, Bhubaneswar** (Hybrid Mode), 23rd to 25th May 2025, paper id: 427.Presented paper in online mode on 25th May 2025.

2. Unfolding Course delivery with Identify Assign Assess Analyze -A powerful Experiential Learning model, Paper id:139. Presented a paper in T4E scheduled on 6-8 December 2024, at **IIT Gandhinagar**.
3. N. M. Mathkunti, S. Rangaswamy, S. S. Yalavigi, S. S. Shellikeri and S. S. Magadum, "Early Diagnosis of Parkinson's Disease Using Deep Learning and Average Voting Classifier," *2024 Second International Conference on Data Science and Information System (ICDSIS)*, Hassan, India, 2024, pp. 1-6, doi: 10.1109/ICDSIS61070.2024.10594705. 2024 Second International Conference on Data Science and Information System (ICDSIS), 17-18 May 2024
4. Manonmani S ,Shanta Rangaswamy,"Underwater Mine Detection Using Histogram of oriented gradients and Canny Edge Detector" to IEEE ICCST2021 (54th IEEE International Carnahan Conference on Security Technology - online) during 11-15 Oct 2021. (.) 2021 International Carnahan Conference on Security Technology (ICCST) | 978-1-6654-9988-0/21/\$31.00 ©2021 IEEE | DOI: 10.1109/ICCST49569.2021.971740
5. Shanta Rangaswamy, Poonam Ghuli, Nagendra Gupta, K N Subramanya, "Exploring supply chain management using Block Chain Machine Learning-A survey" International Conference on Mainstream Block Chain Implementation (ICOMBI) 2020, organized by Global Engineers Forum(GEF) and BMS College of Engineering, Bengaluru, Department of Industrial Engineering and Information Science and Engineering, on 21st February 2020.

Books/Book Chapters

1. Book chapter titled "Different Smart Diagnosis Processes of Alzheimer's Brain Disease Using AI Techniques" in the book Smart Medical Imaging for Diagnosis and Treatment Planning. eBook Published on 31 July 2024, DOI <https://doi.org/10.1201/9781003464884>, eBook ISBN9781003464884, Taylor and Francis Group **CRC Press**. Nivedita Manohar Mathkunti and Shanta Rangaswamy. pp 46-70. **Scopus indexed**. Different Smart Diagnosis Processes of Alzheimer's Brain Disease Using (taylorfrancis.com)
2. **Book published**, titled "Intelligent Transport System in Metropolitan Cities. Design of a predictive model to estimate mode of transport and travel time in metropolitan cities using RL Technique" 978-620-5-51938-7, Published on 2022-11-30, Publishing house LAP LAMBERT Academic Publishing
Number of pages 148, [Intelligent Transport System in Metropolitan Cities / 978-620-5-51938-7 / 9786205519387 / 6205519380 \(lap-publishing.com\)](https://www.lap-publishing.com/products/9786205519387) Authors: Roopa Ravish, Shanta Rangaswamy
3. Book Chapter published. Book title: Handbook of Statistics 38, Computational Analysis and Understanding of Natural Languages-Principles, Methods and Applications. Copyright © 2018 Elsevier B.V., ISBN: 978-0-444-64042-0, ISSN: 0169-7161, [https://www.elsevier.com/books-and-journals/Chapter 8 Machine Learning](https://www.elsevier.com/books-and-journals/Chapter-8-Machine-Learning), pp 197- 227, in April 2018.

Patents

1. Published a patent in 2016, Application No: E-2/3918/2014-CHE, Reference No: 3814/CHE/2014 C.B.R. No: 14282, Titled: Efficient classification of online course web pages to create its offline repository using Machine learning algorithms

R & Grants & Consultancy Projects

Ongoing & Completed Research Projects

1. Principal Investigator of the project titled “Design, Development and implementation of Real/Near Real Time low SNR Target detection and Tracking System” RES-SAC-2022-012, **ISRO RESPOND** Project. Grant Amount: Rs.24,96,140/-. Duration:3years
2. Principal Investigator of the project titled “Development of Deep Learning based algorithms for SAR image semantic segmentation” under the scheme CARS for **LRDE DRDO**.CARS-90. Sanctioned amount: Rs.977040.00. Start date:9th March 2023.
3. Co-Principal Investigator of the project titled “Exploratory research on impact of Artificial Intelligence on the procurement in supply chain” under **VTU research grant scheme** 2021.Sanctioned amount: Rs.6 lakhs. Duration:2 years.
4. Co-Principal Investigator of the project titled “Tracking and collaboration of tasks for enabling the activities of complex programmes” for **Centre for Airborne Systems, DRDO** from April 2017-Aug 2019, under the CARS scheme. Three modules were: Project Management, Quality Management, Audit and Calibration. (Amount 9.2 lakhs)

Ongoing & Completed Consultancy Projects

1. Design & Development of Auto Reed digiPICK -Paramount Instruments Ltd. Jan 2023.
2. OD199-AI, ML | “Multimodal, Multilingual Embedding for Toxic Content Detection”. Samsung Prism Phase IV. Start date:18th Jan 2023- July 2023. Received certificate of Excellence.
3. UX Framework| Google Play Instant Apps and Bundle Dynamic Delivery_MO19RV during June 2021 to Jan 2022. Students and faculty team received certificates as ‘Certificate of Excellence’ and Rewards (Amazon gift vouchers). (Co PI: Dr.JS) Samsung Prism Phase III.
4. AI based partition prediction for Essential Video Codec_VR35RV during to Jan to May 2022 (Co PI: Ravishankar Holla) Samsung Prism Phase III
5. “End-to-end face landmark with MDM on ARMNN GPU” for Samsung Prism (Phase 1) from March 2019-April 2020.Received Certificate of Excellence.
6. “Trend Analysis of CSC” for CISCO from September 2017 to October 2018.
7. “Quotation Management System” for **Karnataka Forest Corporation Ltd**, Malleshwaram, Bengaluru during Oct 2015-Dec 2016. (Amount:1lakh) **Department**
8. Handled classes for SAHAJ SOFT on “Introduction to Machine Learning” during 14th July and 22nd July 2017.
9. Received CSIR funding worth 2 Lakh for the organization of “Computational Systems and Information Technology for Sustainable Solution” (CSITSS-2017) Conference, 2021-2023 December 2017

Professional Memberships

- IEEE Society membership-94074815-Elevated as IEEE Senior Member from July 2020.
- ACM Professional Member since 2023-1032222
- Indian Society for Technical Education - Life Membership-LM71643
- Computer Society of India-Life Membership-00134747

Awards & Recognitions

- **Recognized as NPTEL QC. QC ID: QC0036**
Completed Quality Check for the following courses:
(details are also available on [Translation status sheet on site April2020 - Google Drive](#))
- Appointed as Institute Representative (IR) for IIT Madras Online Degree Program Exam Observer.

- Recognized as Reviewer for various Web of Science, Scopus and IEEE journals.
- Recognized as Enthusiastic reader by from CSI Communications in August 2014 issue for identifying the mistake in the puzzle printed in CSIC, July 2014 edition.
- Received Acceptance/Congratulations greeting from CSI Communications in September 2011 issue for a Crossword –Solution CSIC August 2011.

Student Supervision

- **Ph.D. Candidates:** 02 graduated
- **M.Tech/M.Sc. Students:** 40
- **Undergraduate Research Mentees:** 80

Professional Roles

- Reviewer for ICICTES 2021(IUCEE Conference), Journal of Reliable Intelligent Environments, ICICTES-2021, ICCDW(IEEE Conference in Feb 2020), EJERS-European Journal of Engineering Research and Science and various Web of Science ,Scopus and IEEE journals.
- Publication Chair of International Conference on “Computational Systems and Information Technology for Sustainable Solution” (CSITSS) during 2020 to 2024.
- General Chair of International Conference on “Computational Systems and Information Technology for Sustainable Solution” CSITSS 2025

Teaching

Core Courses:

Artificial Intelligence and Machine Learning
 Software Engineering
 Research Methodology
 Computer Systems Performance Analysis
 DataBase Management Systems

Advanced/Lab Courses:

Artificial Intelligence and Machine Learning
 DataBase Management Systems

Professional Roles

Responsibilities

HoD-CSE
 BoS Chairman
 BoE Chairman
 B.E. and M.Tech- NBA Criterion coordinator
 NPTEL Local Chapter SPOC
 Virtual Labs-Nodal Centre coordinator

External Connect

- Board of Studies member at Dayananda Sagar Academy of Technology and Management (VTU Nominee)
- Board of Studies member at BNM Institute of Technology and Management (VTU Nominee)