Dr. Aruna Kumar S V

arunkumarsv55@gmail.com

+91-7795691216

Google Scholar Link Personal Web Page Scopus ORCID

Research Interests	Soft Biometric, Computational Intelligence, Machine Learning, Medical Image Processing.

Education

- **Ph.D. in Computer Science and Engineering**, Visvesvaraya Technological University, Belagavi, India (2013-2018).

- **M.Tech in Software Engineering**, Sri Jayachamarajendra College of Engineering, Mysuru, India (2011-2013).
  Secured FIRST RANK (GOLD MEDAL) with 9.52 CGPA.

- **B.E in Computer Science and Engineering**, U.B.D.T College of Engineering, Davangere, India (2007-2011).

Job Experience

Scientist, Food Engineering Department, CSIR-Central Food Technological Research Institute (CFTRI), Mysuru (From Jan 2025 to Till Date).

Machine Learning Researcher, KuboCare Pvt. Ltd (From Oct 2024 to Dec 2024)

LINC Fellow, LINC Enducation (From Feb 2024 to Oct 2024)

Associate Professor, Malnad College of Engineering, Hassan,India (From Oct 2021 to Dec 2023)

Assistant Professor Grade II, Ramaiah University of Applied Sciences, Bangalore, India (From Oct 2020 to Oct 2021)

Post Doctoral Researcher, SOCIA-LAB, Department of Computer Science, University of Beira Interior, Covilha. Portugal (From June 2019 to June 2020).

Assistant Professor Grade III, NMAM Institute of Technology, Nitte, India (Sept 2018 to April 2019)

LG Soft India (From July 2012 to June 2013)

Awards

- **University Grants Commission (UGC)-National Fellowship**: Awarded from Government of India.

- Awarded **1st Prize in Segmentation** and **2nd Prize in Recognition** task in Sclera Segmentation Benchmarking Competition organized by The 9th IAPR International Conference on Biometrics (ICB-2016), Sweden, 2016.

- Awarded **1st Prize in Recognition** task in Sclera Segmentation and Eye Detection Benchmarking Competition in Conjunction with International Joint Conference on Biometrics (IJCB 17), USA, 2017.

- Awarded **Travel Grant** from **University Grant Commission (UGC)**, Government of India for attending the IAPR International Conference on Pattern Recognition Applications and Methods (ICPRAM 17), Porto, Portugal, 2017.

International Collaborations

- **Prof. Francesco Masulli**
  Department of Informatics, Bio Engineering, Robotics and System Engineering(DIBRIS),
  University of Genova, Genova, Italy

- **Prof. Stefano Rovetta**
  Department of Informatics, Bio Engineering, Robotics and System Engineering(DIBRIS),
  University of Genova, Genova, Italy

- **Prof. P Shivakumara**
  Faculty of Computer Science and Information Technology,
  University of Malaya,
  Kuala Lumpur, Malaysia

- **Prof. Raghavendra Ramachandra**
  Department of Information Security and Communication Technology (IIK),
  Norwegian Biometrics Laboratory (NBL),
  Norwegian University of Science and Technology,
  Gjovik, Norway.

- **Prof. Minh Ngoc Ngo**

Department of Computer Science,
Singapore Institute of Technology,
Singapore

Professional Activities

- Invited as a resource person to deliver a talk on "Medical Image Processing and Its Applications", held at Administrative Training Institute (ATI), Mysuru.

- Invited as a resource person to deliver a talk on "Impact of Literature Survey", held at Amrita School of Arts and Sciences, Mysuru Campus, Mysuru.
- Served as a reviewer for Elsevier Journal of Neurocomputing, Elsevier Journal of Pattern Recognition, Elsevier Journal of Image and Vision, International Journal of Interactive Multimedia and Artificial Intelligence.
- Served as Technical Committee member for following international conferences: CGMIP2019, CGMIP2020, IVPAI2019,CNAI2019, ICIT2019, ICIT2020.

Refereed Journal Publications

1. Matej Vitek, Abhijit Das, **S V Aruna Kumar**, et.al.,"Exploring Bias in Sclera Segmentation Models: A Group Evaluation Approach", *IEEE Transactions on Information Forensics and Security*, vol. 18, pp. 190–205, 2022. **(IF: 7.23)**

2. **S V Aruna Kumar**, Ehsan Yaghoubi, Hugo Proença "A Fuzzy Consensus Clustering Algorithm for MRI Brain Tissue Segmentation", *Applied Sciences*, 2022, 12 (15) 7385 **(IF: 2.67)**

3. Ehsan Yaghoubi, **S. V. Aruna Kumar**, Hugo Proenca "SSS-PR: A Short Survey of Surveys in Person Re-identification", ***Pattern Recognition Letters (Elsevier)*** 143 (2021): 50-57**(IF: 3.25)**

4. Ehsan Yaghoubi, Diana Borza, **S. V. Aruna Kumar**, Hugo Proenca " Person Re-identification: Implicitly Defining the Receptive Fields of Deep Learning Classification Frameworks", ***Pattern Recognition Letters (Elsevier)***145 (2021): 23-29 **(IF: 3.25)**

5. Ehsan Yaghoubi, Farhad Khezeli, Diana Borza, **S. V. Aruna Kumar**, Joao Neves, Hugo Proenca "Human Attribute Recognition: A Comprehensive Survey", ***Applied Sciences*** 2020, 10, 5608. **(IF: 2.7)**

6. **S. V. Aruna Kumar**, Ehsan Yaghoubi, Abhijit Das, B. S. Harish, Hugo Proenca "The P-DESTRE: A Fully Annotated Dataset for Pedestrian Detection, Tracking, Re-Identification and Search from Aerial Devices", ***IEEE Transactions on***

Information Forensics and Security 16 (2020): 1696-1708(10.1109/TIFS.2020.3040881) **(IF: 6.2)**.

7. Ehsan Yaghoubi, Diana Borza, Joao Neves, **S. V. Aruna Kumar**, Hugo Proenca "An Attention-Based Deep Learning Model for Multiple Pedestrian Attributes Recognition", ***Image and Vision Computing (Elsevier)*** 102 (2020): 103981 doi.org/10.1016/j.imavis.2020.103981. **(IF: 3.1)**.

8. C K Roopa, B S Harish and **S. V. Aruna Kumar** "Segmenting ECG and MRI Data using Ant Colony Optimization", ***International Journal of Artificial Intelligence and Soft Computing***, 2020.

9. **S. V. Aruna Kumar**, B. S. Harish, B. S. Mahanand and N. Sundararajan "An efficient Meta-Cognitive Fuzzy C-Means clustering approach, ***Applied Soft Computing (Elsevier)***, 85 (2019): 105838, doi:https://doi.org/10.1016/j.asoc.2019.105838 **(IF: 5.1)**.

10. **S. V. Aruna Kumar**, B. S. Harish and P. Shivakumara, "A Novel Fuzzy Clustering based System for Medical Image Segmentation", ***International Journal of Computational Intelligence Studies*** *(DBLP, ACM, Google Scholar)* 2017.

11. B. S. Harish and **S. V. Aruna Kumar**, "Anomaly based Intrusion Detection using Modified Fuzzy Clustering", ***International Journal of Interactive Multimedia and Artificial Intelligence*** *(Scopus, DBLP, Web of Science)*, ISSN 1989-1660, 2017, DOI: 10.9781/ijimai.2017.05.002.

12. **S. V. Aruna Kumar** and B. S. Harish, "A Modified Intuitionistic Fuzzy Clustering Algorithm for Medical Image Segmentation ", ***Journal of Intelligent Systems*** *(Scopus, DBLP, Web of Science)*, 2017, DOI: 10.1515/jisys-2016-0241.

13. **S. V. Aruna Kumar** and B. S. Harish, "Segmenting Medical Images using Computational Intelligence Technique", ***International Journal of Information Processing(IJIP)*** *(Google Scholar)*, vol. 9, no. 1, pp. 48–56, 2015.

Conference Publications

1. M S Maheshan, B S Harish and **S. V. Aruna Kumar**, "Sclera Segmentation using Spatial Kernel Fuzzy Clustering Methods", *9th IAPR International Conference on Pattern Recognition Methods and Applications (Springer, Scopus, DBLP, SCITEPRESS)*, Valletta, Malta, 2020.

2. Z. Emersic, S. V. Aruna Kumar, B. S. Harish, et al. "The Unconstrained Ear Recognition Challenge 2019", *Competition organized by The 12th IAPR International Conference on Biometrics (ICB-2019)*, June 04 – June 07, 2019, Greece.

3. C. K. Roopa, B. S. Harish and S. V. Aruna Kumar, "Classification of ECG Arrhythmia using Symbolic Dynamics through Fuzzy Clustering Neural Network", *International Workshop on Pattern Recognition (SPIE Indexed), Jinan, China, 2018.*

4. C. K. Roopa, B. S. Harish, and S. V. Aruna Kumar. "A Novel Method of Clustering ECG Arrhythmia data using Robust Spatial Kernel Fuzzy C-Means", *Elsevier Procedia computer science* 143 pp. 133-140, 2018.

5. M. B Revanasiddappa, B. S. Harish and S. V. Aruna Kumar, "Meta-cognitive Neural Network based Sequential Learning Framework for Text Categorization", *International Conference on Computational Intelligence and Data Science (ICCIDS) (Elsevier Procedia)*

6. H. M. Keerthi Kumar, B. S. Harish, S. V. Aruna Kumar, Manjunath Aradhya, "Classification of Sentiments in Short-Text: An approach using mSMTP measure, *2nd International Conference on Machine Learning and Soft Computing (ICMLSC 2018)*, Vietnam .

7. Abhijit Das, Umapada Pal, Miguel A. Ferrer, Michael Blumenstein, Dejan Stepec, Peter Rot, Ziga Emersic, Peter Peer, Vitomir Struc, S. V. Aruna Kumar and B. S. Harish, "SSERBC 2017: Sclera Segmentation and Eye Recognition Benchmarking Competition", *International Joint Conference on Biometrics (IJCB) (IEEE)*, USA, pp. 742-747, 2017.

8. B. S. Harish, S. V. Aruna Kumar, Francesco Masulli and Stefano Rovetta, "Adaptive Initialization of Cluster Centers using Ant Colony Optimization: Application to Medical Images", *6th IAPR International Conference on Pattern Recognition Applications and Methods (ICPRAM 17) (Springer)*, Portugal, pp. 591-598, 2017.

9. M. B Revanasiddappa, B. S. Harish and S. V. Aruna Kumar, "Clustering Text Documents using Kernel Possibilistic C-Means", *International Conference on Cognition and Recognition (ICCR 2016) (Springer)*, vol. 14, 2016.

10. B. S. Harish, M. B. Revanasiddappa and S. V. Aruna Kumar, "A Modified Support Vector Clustering Method for Document Categorization", *IEEE International Conference on Knowledge Engineering and Applications (ICKEA 2016) (IEEE)*, pp. 1–5, 2016. doi: 10.1109/ICKEA.2016.7802982.

11. S. V. Aruna Kumar, B. S. Harish and V. N. Manjunath Aradhya, "Picture fuzzy clustering method for medical image segmentation", *Second International Conference on Cognitive Computing and Information Processing (CCIP) (IEEE)* , pp.1–6, 2016.

12. S. V. Aruna Kumar and B. S. Harish, "Spot detection in Microarray Images: An Approach based on Fuzzy Clustering", *International Conference On Recent Trends In Engineering And Material Sciences (ICEMS-2016) (Elsevier)* March 17-19, Jaipur National University, Jaipur, 2016 .

13. B. S. Harish, M. B. Revanasiddappa and S. V. Aruna Kumar, "Symbolic Representation of Text Documents using Multiple Kernel FCM", *3rd International Conference on Mining Intelligence and Knowledge Exploration (MIKE 2015) (Springer LNAI)*, pp. 93–102, 2015.

14. B. S. Harish, S. V. Aruna Kumar, D. S. Guru and M. N. Ngo, "Novel iris segmentation algorithm based on small eigenvalue analysis", *Seventh International Conference on Graphic and Image Processing (ICGIP 2015) (SPIE)*, Singapore, vol. 9817, 2015.

15. S. V. Aruna Kumar, B. S. Harish and D. S. Guru, "Segmenting MRI brain images using Evolutionary Computation Technique", *International Conference on Cognitive Computing and Information Processing (CCIP) (IEEE)*, Noida, pp. 1–6, 2015.

16. S. V. Aruna Kumar and B. S. Harish, "Segmenting MRI Brain Images using novel Robust Spatial Kernel FCM (RSKFCM)", *Eighth International Conference on Image and Signal Processing (Elsevier)*", Bangalore, pp. 38–44, 2014.

17. B. S. Harish, S. V. Aruna Kumar and S. Manjunath, "Classifying Text Documents using Unconventional Representation", *International Conference on Big Data and Smart Computing (BigComp) (IEEE)*, Thailand, pp. 210-216, 2014.

18. S. V. Aruna Kumar and B. S. Harish, "Digital Video Broadcast (DVB) Standards: Comparison based on Technical Characteristics", *Fifth International conference on networks & Communication*, July 13-15, Chennai, India, 2013.

Technical Report

1. B. S. Harish and S. V. Aruna Kumar, "Segmentation of Medical Images: Importance and its Challenges", CSI Communications, pp. 34–35, 2015.

Workshops Organized

- Organized a IEEE sponsored "Research Conclave" on 26th Noveber 2022.

- Organized a IEEE sponsored Five Days of Faculty Development Program on "Data Analytics and Learning: The Quest" from 10th October to 14th October 2022.

- Organized Project Expo for "Financial Assistance for Final Year Students Innovative Projects (VTU-FAFSIP)" on 14th July 2022.

- Organized a National Level AURA Project Expo on June 24th 2022.

- Organized a Five Day National Level Seminar on "Multimedia Data Analysis" in Collaboration with Dr. B S Harish under TEQIP II Initiative, from April 26th–30th, 2016.

- Organized a Three Day National Level workshop on "Mathematics behind Machine Learning" in Collaboration with Dr. B S Harish under TEQIP II Initiative, from August 21st–23rd, 2014.

Workshops Attended

- Attended five days short-term course on "Deep Learning and Applications" held at Indian Institute of Technology Kanpur, India during Jan 12th-16th , 2017.

- Attended three days National Level Seminar on "Soft Computing Techniques to Pattern Recognition" organized by Department of Studies in Computer Science, University of Mysore, Mysuru, held on 3rd to 5th November, 2016.

- Attended one week Faculty development program on "Advances in Pattern Recognition: An approach through MATLAB" Jointly organized by Electronics and communication Engineering and Department of Electrical and Electronics Engineering, Sri Jayachamarajendra College of Engineering, Mysuru held on 31st August 2016 to 4th September 2016.

- Attended Two day faculty development program on "Research Avenues in Biometric and Forensic Science" jointly organized by Department of Instrumentation Technology and Master of Computer Applications, Sri Jayachamarajendra College of Engineering, Mysuru, held on 24 and 25th June 2016.

- Attended Five day National Level Seminar on "Multimedia Data Analysis" organized by Department of Information Science and

Engineering, SJCE, Mysuru held on 26th April to 30th April 2016.

- Attended one day workshop on "Authors Workshops on Publish or Perish" organized by Sri Jayachamarajendra College of Engineering, Mysuru, held on 26th March, 2016.

- Attended one day state level seminar on "Application of Mathematics in Science and Technology" organized by Department of Mathematics MMK and SDM Mahila Maha Vidyalaya, Mysuru held on 25th January 2016.

- Attended "Engineering Applications on Health Care Delivery System" organized by Dept. IS & E and JSS Research held in Sri Jayachamarajendra College of Engineering, Mysuru, held on 18th September 2015.

- Attended "Machine Learning and Its Applications" organized by Dept. CS& E held in M.S. Ramaiah Institute of Technology, Bengaluru, from July 13th -17th , 2015.

- Attended a one day workshop on "Understanding Reference Tools: Mendeley and Endnote" on 21st June 2015 at Sri Jayachamarajendra College of Engineering (SJCE), Mysuru.

- Attended One day workshop on "Modern Machine Learning Applications" organized by JSS Research Foundation, Mysuru on 24th January 2015.

- Attended "Workshop on Imapct of TEQIP-II Assistantships for PG and Research Scholars" organized by Research Center, Malnad College of Engineering, Hassan from 19-20th September 2014.

- Attended "Research Methodologies and Latex" organized by VTU e-Learning Center, Mysore held in Shree Devi Institute of Technology, Mangalore from Sept 9-11, 2014.

- Attended "Mathematics behind Machine learning" organized by Dept. IS & E held in Sri Jayachamarajendra College of Engineering, Mysore from Aug 21-23, 2014.

- Attended "Workshop on Bio-inspired Computation" organized by IEEE Student Branch held in IISc Bangalore from Dec 20–21, 2013.

References

- Dr. B. S. Harish   Phone: 9886779078
  Professor   E-mail: bsharish@jssstuniv.in
  Department of Information Science and Engineering,
  JSS Science and Technology University, Mysuru, Karnataka

- Hugo Pedro Proença   Email: hugomcp@di.ubi.pt
  Associate Professor, IEEE Senior Member
  Senior Researcher of the IT-Instituto de Telecomunicações
  Member of the SOCIA Lab
  Department of Computer Science
  University of Beira Interior
  6201-001 Covilhã, Portugal

- Dr. B S Mahanand   Phone: 9448335403
  Associate Professor   E-mail: bsmahanand@sjce.ac.in
  Department of Information Science and Engineering,
  JSS Science and Technology University, Mysuru, Karnataka

Date: Dr. Aruna Kumar S V
Place: