Dr. N Kishore Babu

Indian Institute of Information Technology Ranchi

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I received my M.Tech. and Ph.D. degrees from the Department of Computer Science and Engineering under the guidance of Professor Balasubramanian Raman, Indian Institute of Technology Roorkee. My doctoral study, which focused on Deep Learning-Driven Approaches to Medical Image Computing and Secure Processing, resulted in a successful thesis defense on June 24, 2024. My research findings have been published in several peer-reviewed publications and conference proceedings. Please find the more details at https://kishorebabun.github.io/.

Research Interests: Medical Image Processing, Image Segmentation, Image Classification, Machine Learning.

Education

Program	Institution/Board	Year
Ph.D. (Computer Science & Engg.)	Indian Institute of Technology Roorkee <i>Roorkee, India</i>	2019-24
M. Tech. (Computer Science & Engg.)	Indian Institute of Technology Roorkee <i>Roorkee, India</i>	2015-17
B. Tech. (Computer Science & Engg.)	Sri Vidyanikethan engineering college <i>Tirupati, India</i>	2008-12
Intermediate (M.P.C)	Krishna Reddy's Sri Chaitanya College <i>Tirupati, India</i>	2006-08
S.S.C	A.P.R.S Gyarampalli	2000-06

Academic Coursework and Technical Proficiencies

- o COURSES: Database management system(DBMS), Advanced DBMS, Digital Logic design (DLD), Object Oriented Programming, Machine Learning, Al.
- o PROGRAMMING LANGUAGES: C, C++, Java, Python.
- WEB TECHNOLOGY: HTML, XML, JAVASCRIPT.
- o DATABASE SYSTEM: MySQL, Oracle.
- o OPERATING SYSTEM: Windows, Linux.
- o DEEP LEARNING: CUDA, Tensor Flow, PyTorch, and its compatible libraries.

Positions of Responsibility

- o Working as a Faculty in the department of CSE, IIIT Ranchi (08-08-2024 to till date).
- Worked as an assistant professor in Vignan's Deemed to be University (20-06-2017 to 18-12-2018). Teaching as a faculty advisor and student counselor.
- o *Teaching Assistant (Ph.D.)* in CSE Department, IIT Roorkee (January, 2019-December, 2024).
- o Reviewer for Conferences: CVIP, ICONIP, IJCNN
- o Reviewer for Journals: Journal of Real-Time Image Processing, Neurocomputing.
- o Member of ERP/Information System Team, IIIT Ranchi. (August 29, 2024 Till Date)
- o Faculty Advisor (1st Year B.Tech., CSE), IIIT Ranchi. (January 9, 2025 Till Date)

Workshops

- Certified by International Centre for Theoretical Physics (ICTP) for participation and completion of online Youth in High Dimensions: Machine Learning, High Dimensional Statistics and Inference for the New Generation, 29 Jun - 03 Jul. 2020. ICTP certification
- Attended IEEE International Conference on Image Processing on October 25–28, 2020 Abu Dhabi, UAE (Virtual).
 Certificate of participation in ICIP 2020.
- Attended Fourth International Conference on Computer Vision & Image Processing (CVIP 2019) held in Jaipur,
 Rajasthan, India.
- o Participated in conducting the Workshop (virtual) on Digital Image Processing and its Applications (DIPA-2020) at NIT Arunachal Pradesh, India.

Achievements/Awards

- Received merit scholarship from Indian Bank for securing first rank in Secondary School Examination at the district level
- o Got merit scholarship for the achievement in securing first rank in Secondary School Examination in district level from Indian Bank.
- Awarded DORA Funds by Indian Institute of Technology Roorkee to present my research paper at an International Conference.
- o Granted Microsoft research funds to attend an IEEE International Conference.
- o Received a 10-year US visa valid until January 15, 2030.
- Attended and presented (offline) research paper at the 14th IEEE International Conference on Semantic Computing (ICSC 2020) in San Diego, California, USA, held from Feb 3-5, 2020.
- Received M.H.R.D. fellowship from the Government of India.
- Attended as a judge for SOCIOTHON conducted by NSS IIT Roorkee in October 2023.
- o Attended as a judge for NATIONAL SOCIAL SUMMIT conducted by IIT Roorkee from 10-11 Feb 2024.

Visits

National Visits:

- 1. Attended CVIP International conference, MNIT, Jaipur (Rajasthan).
- 2. Participated in conducting the Workshop (virtual) on Digital Image Processing and its Applications (DIPA-2020) at NIT Arunachal Pradesh, India.

o International Visits:

- 1. Attended ICSC international conference, California, San Diego, USA. (Offline)
- 2. Attended ICTP certification course in Italy. (Virtual)
- 3.Attended IEEE International Conference on Image Processing at Abu Dhabi, UAE. (Virtual)

Invited Talk

 Delivered a talk (Virtually) on ONLINE FRAUDS AND HOW TO AVOID THEM in a National Webinar on Digital Literacy conducted by GOVERNMENT DEGREE COLLEGE, NANDIKOTKUR (Affiliated to Rayalaseema University, Kurnool), Department of Commerce & Department of Computer Applications, Andhra Pradesh, India on 11 Sep 2024.

Publications

JOURNALS:..

- 1. **Kishore Babu Nampalle**, Shriansh Manhas and Balasubramanian Raman, Medical Image Security and Authenticity via Dual Encryption, *Applied Intelligence* (*Springer*), Volume 53, pages 20647–20659, 2023. https://doi.org/10.1007/s10489-023-04550-3 [Published, Q2, IF = 5.3]
- 2. **Kishore Babu Nampalle**, Anshul Pundhir, Pushpamanjari Ramesh Jupudi and Balasubramanian Raman, Towards Improved U-Net for Efficient Skin Lesion Segmentation, *Multimedia Tools and Applications* (<u>Springer</u>), Volume 83, pages=1–18, April 2023. https://doi.org/10.1007/s11042-024-18334-5 [Published, Q2, IF = 3.6]
- 3. Kishore Babu Nampalle, Pradeep Singh, Shubhi Srivastava, Vivek Narayan Uppala, and Balasubramanian Raman,

Medical Imaging Diagnostics via Anisotropic Diffusion in a Resource-Efficient Federated Learning Model, *IEEE Transactions on Emerging Topics in Computational Intelligence* (<u>IEEE TETCI</u>), September 2024. **[Communicated, Q2, IF = 5.3]**

4. **Kishore Babu Nampalle**, Pradeep Singh, Vivek Narayan Uppala, and Balasubramanian Raman, Integrated Wavelet-Enhanced Deep Learning Framework for Point Cloud-Based Image Classification, *ACM Transactions on Multimedia Computing, Communications, and Applications* (*ACM TOMM*), November 2024. **[Communicated, Q1, IF = 5.1]**

CONFERENCES:

- 1. **Kishore Babu Nampalle**, Balasubramanian Raman, An Efficient Approach for Skin Lesion Segmentation using Dermoscopic Images: A Deep Learning Approach, Proceedings of *The* 5th International Conference on Computer Vision and Image Processing (CVIP), 4-6 December, Allahabad, pp. 430-439, 2020. **(Published)**
- 2. **Kishore Babu Nampalle**, Balasubramanian Raman, An Efficient Multi-Functional Deep Learning Model for Effective Medical Image Classification using Skin Lesion Database, Proceedings of *The* 5th *IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR)*, 2-4 August, USA, pp. 425-429, 2022. **(Published)**
- 3. Nidhi Saxena, **Kishore Babu Nampalle**, Balasubramanian Raman: Semantic segmentation of multispectral images using res-seg-net model, Proceedings of IEEE 14th International Conference on Semantic Computing (ICSC), February 3-5, 2020, San Diego, California, USA. **(Published)**
- 4. Goyal, P., Raj, A., Kumar, P. and **Kishore Babu Nampalle**, 2022, August. Automatic Evaluation of Machine Generated Feedback For Text and Image Data, Proceedings of IEEE 5th International Conference on Multimedia Information Processing and Retrieval (MIPR), August 2-4, 2022, (pp. 413-418), IEEE. **(Published)**
- 5. Deepak Kumar, Pradeep Singh, Richa, **Kishore Babu Nampalle** and Balasubramanian Raman, Integrating Physiological Signals with Dynamical Attention Networks for Personality Trait Analysis, International Joint Conference on Neural Network (IJCNN 2024), June 30 July 5, Yokohama, Japan. **(Published)**

OTHERS

- 1. **Kishore Babu Nampalle**, Pradeep Singh, Uppala Vivek Narayan, Balasubramanian Raman, Vision Through the Veil: Differential Privacy in Federated Learning for Medical Image Classification, https://doi.org/10.48550/arXiv.2306.17794. **(Preprint)**
- 2. Pradeep Singh, **Kishore Babu Nampalle**, Uppala Vivek Narayan, Balasubramanian Raman, See Through the Fog: Curriculum Learning with Progressive Occlusion in Medical Imaging, https://doi.org/10.48550/arXiv.2306.15574. **(Preprint)**

Others

o Hobbies: Traveling, Self Learning, Playing Games. O Languages: Telugu, English, Hindi.

Place: IIIT Ranchi, Jharkhand State (India) (Dr. N Kishore Babu)