Akshay Bhuvaneswari Ramakrishnan

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Education

- **Master of Science and Engineering in Data Science**
  Whiting School of Engineering, Department of Applied Mathematics and Statistics, Johns Hopkins University, Baltimore, MD, USA
  Expected Spring 2026
  GPA: JHU 4.0/4.0

- **Bachelor of Technology in Computer Science and Engineering**
  School of Computing, SASTRA University, Tanjore, India
  2020–2024
  GPA: SASTRA 7.4/10

Relevant Coursework:

- Research and Design in Applied Mathematics: Data Mining

- Introduction to Data Science

- Computing for Applied Mathematics

- Machine Perception

- Artificial Intelligence and Machine Learning for Global Health

- Machine Translation

- Introduction to Optimization

- Machine Intelligence

- Machine Learning for Medical Applications

- Artificial Intelligence

- Statistical Methods and Data Analysis

Academic Positions & Professional Experience

- **Associate Research Fellow**, Laboratory of Computationally Intensive Care Medicine, Johns Hopkins Medicine, Johns Hopkins University, Baltimore, MD, USA (2024–2025)

- **Data Engineer / QA Tester**, Hitachi Energy, Chennai, India (Dec 2023–Jul 2024)

- **Research Assistant (Intern)**, Advanced Driver Assistance System Lab, National Institute of Technology, Tiruchirappalli, India (Jun 2023–Aug 2023)

Research, Scholarly, and Creative Activities

Edited/Authored Books

- Editor, *Mathematical Foundations of Explainable AI in Industry 4.0 and Industry 5.0: Concepts, Practices and Case Studies*. Bentham Science. (Forthcoming)

- Editor, *Data-Driven Business in the Digital Age: Leveraging Big Data and AI for a Strategic Edge*. Bentham Science. (Forthcoming)

- Author, Akshay B. R., Sini Raj Pulari, T. S. Murugesh, & Shriram K. Vasudevan. *Machine Learning: A Comprehensive Beginner's Guide*. CRC Press, 2024.

Chapters in Books

1. Ramakrishnan, A. B. R., et al. "Cognitive Analytics–Based Diagnostic Solutions in Healthcare Infrastructure." In *Cognitive Analytics and Reinforcement Learning: Theories, Techniques and Applications*, 239–252. 2024.

2. Pulari, S. R., et al. "Reinforcement Learning for Demand Forecasting and Customized Services." In *Cognitive Analytics and Reinforcement Learning: Theories, Techniques and Applications*, 123–134. 2024.

3. Thaiyub, A., et al. "Predictive Modelling for Employee Retention: A Three-Tier Machine Learning Approach With oneAPI." In *Multidisciplinary Applications of AI Robotics and Autonomous Systems*, 195–205. IGI Global, 2024.

4. Madavan, M., et al. "Incorporation of Computer Vision and Metaverse Analysis Using UAV Communications for Healthcare Applications." In *Ubiquitous Computing and Technological Innovation for Universal Healthcare*, 252–273. IGI Global, 2024.

5. Ramakrishnan, A. B. R., & Srijanani, S. "Unsupervised Learning." In *Generative AI Foundations, Developments, and Applications*, 303–314. IGI Global Scientific Publishing, 2025.

6. Ramakrishnan, A. B. R., et al. "Energy Efficiency and Conservation Using Machine Learning." In *Green Machine Learning and Big Data for Smart Grids*, 69–78. Elsevier, 2025.

7. Ramakrishnan, A. B. R., et al. "5 Artificial Neural." In *Quantum Machine Learning: A Modern Approach*, 135. 2024.

8. Ramakrishnan, A. B. R., et al. "Using Blockchain for Sustainable Supply Chain Management in Industry 4.0." In *Blockchain, IoT, and AI Technologies for Supply Chain Management*, 333–346. Apress, 2024.

9. Ramakrishnan, A. B. R., et al. "UAV Communication for Various Learning Approaches in Metaverse Healthcare Analysis Using Cloud Computing." In *Ubiquitous Computing and Technological Innovation for Universal Healthcare*, 239–251. IGI Global, 2024.

Articles in Refereed Journals

- Ramakrishnan, A. B. W., Vasudevan, S. K., Murugesh, T. S., & Pulari, S. R. (2023). Enhancing multiclass classification of knee osteoarthritis severity grades using oneDNN. *International Journal of Bioinformatics Research and Applications*, 19(3), 200–212.

- Ramakrishnan, A. B. W., & Srilakshmi, A. (2023). An optimized machine learning approach using Intel oneAPI for detecting cardiovascular system failure. *International Journal of Medical Engineering and Informatics*, 1(1). https://doi.org/10.1504/ijmei.2023.10057866

- Ramakrishnan, A. B. W., Sridevi, M., Vasudevan, S. K., Manikandan, R., & Gandomi, A. H. (2024). Optimizing brain tumor classification with hybrid CNN architecture: Balancing accuracy and efficiency through oneAPI optimization. *Informatics in Medicine Unlocked*, 44, 101436.

- Ramakrishnan, A. B. W., Madavan, M., Manikandan, R., & Gandomi, A. H. (2025). A hybrid deep learning paradigm for robust feature extraction and classification for cataracts. *Applied AI Letters*, 6(2), e113.

Conference Presentations

- "A Modern Approach for Recommending Crops Using Novel Machine Learning Techniques." International Conference on Recent Trends in Computer Science, Rathinam College of Arts and Science, Coimbatore, India, Nov 2022.

- "Predicting Liver Fibrosis Using Advanced Machine Learning Techniques." International Conference on AI and Machine Learning, Bannari Amman Institute of Technology, Coimbatore, India, Jan 2023.

- "Advancing Structural Inspection Through AR/VR: Drone-Assisted Flaw Detection in Civil Engineering." IBC Conference, Delhi, India, Jun 2024.

- "EEG-Based Analysis of Neurophysiological Correlation in Cognitive Enhancement: Investigating the Effects of Meditation and Task Familiarity." 5th International Conference on Internet of Things (ICIoT 2025), SRM IST, Kattankulathur, India, Apr 2025.

- "A Unified Framework for Chest CT Image Classification: Benchmarking Pre-Trained Architectures with Lightweight and Deep Models." 6th International Conference on Artificial Intelligence, Robotics, and Control, Georgia Southern University, Statesboro, GA, USA, May 2025.

Posters

- "Deep Learning Applications in Genomic Data Science." International Conference on AI and Machine Learning, Bannari Amman Institute of Technology, Coimbatore, India, Jan 2023.

- "Cardiovascular Disease Prediction." oneAPI DevSummit for HPC and AI, Aug 2023.

- "Optimizing Brain Tumor Classification with Hybrid CNN Architecture: Balancing Accuracy and Efficiency through oneAPI Optimization." Connect to Campus Conference, Johns Hopkins University Homewood Campus, Baltimore, MD, USA, Oct 19, 2024.

Certifications

- Certified Machine Learning Instructor, Intel (06/2024–06/2025)

- Jetson AI Specialist, Nvidia (01/2024)

- Intel Innovator (ongoing)

- Lean Six Sigma Yellow Belt, Lean Methods Group (03/2024)

- Certified MLOps Professional, Intel (12/2023–12/2026)

Skills

- **Technical Skills:** SQL, Python, R, C, C++, Java, JavaScript, HTML, CSS, SYCL, DPC++

- **Interpersonal Skills:** Leadership, Communication, Team Player, Hardworking, Eager to Learn

Expert Talks & Invited Lectures

- Women in AI, Kalainagar Karunanidhi Institute of Technology, Coimbatore, India, December 2023

- Large Language Model and GenAI Workshop, National Institute of Technology, Tiruchirappalli, India, November 2023

- The Generative AI Revolution, SASTRA University, Tanjore, India, July 2023

- Women in AI, KSR Institute of Technology, Namakkal, India, May 2023

- Scalable AI Models, NGPiTech and Kalainagar Karunanidhi Institute of Technology, Coimbatore, India, July 2023

- Intel oneAPI Workshop, Anna University, Madurai, India, August 2023

- Machine Learning and GenAI Workshop, PSNA College of Engineering and Technology, Dindigul, India, March 2024

- ML with oneAPI Workshop, Saranathan College of Engineering, Tiruchirappalli, India, December 2023

- Women in Computing and ML, KPR Institute of Technology, Coimbatore, India, December 2023

- oneAPI and SYCL Workshop, Saranathan College of Engineering, Tiruchirappalli, India, March 2023

- Advanced Driving Assistance Monitoring Systems Workshop, National Institute of Technology, Tiruchirappalli, India, June 2023

- Intel oneAPI Workshop, Dayananda Sagar College of Engineering, Bangalore, India, April 2023

- Faculty Development Program on Advanced AI Tools for Research, CMR University, Bangalore, India, October 2024

- Mastering AI and ML Tricks and Trends, SA College of Arts and Science, Chennai, India, January 2025

- 2-Day FDP on AI in Healthcare: Case Studies and Best Practices, KPR Institute of Technology, Coimbatore, India, December 2024

- AI-Driven Innovations in Academic and Research Librarianship, Thomas Elizabeth College for Women, Chennai, India, March 2025

- AI PC Revolution: Building Next-Gen AI Workstations, EGS Pillay College, Nagapattinam, India, June 2025