Ashvath Venkataramana Cheppalli

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ashvathhh.github.io/Profile/

EDUCATION

Northeastern University, Boston, MA — Sep. 2025 – Present
Khoury College of Computer Sciences — Expected Graduation: 2027
Candidate for a Master of Science in Artificial Intelligence
Related courses: Foundation of Artificial Intelligence, Algorithms, Applied Programming and Data Processing for AI

Rajalakshmi Engineering College, Chennai, India
Bachelor of Technology in Artificial Intelligence and Machine Learning, — 2025
Related courses: Computer Vision, Databases, Natural Language Processing, Deep Learning — GPA: 7.49

TECHNICAL KNOWLEDGE

Languages:	Python, JS, HTML, CSS, R
Databases:	MySQL
Skills:	Reinforcement Learning, NLP, Machine Learning, Deep Learning
Libraries:	PyTorch , Keras, TF, Pandas
Certifications:	Microsoft – Career Essentials in GenAI, Coursera- AI for everyone

WORK EXPERIENCE

Skillible, Chennai, India
AI Intern — July 2024 – August 2024

- Conducted analysis of bias mitigation strategies and limitations in Generative AI systems, performing comparative evaluations of model performance across different generative tasks.
- Developed and implemented advanced prompt engineering techniques to optimize Generative AI model outputs, working with transformer architectures and understanding core concepts of large language models.

Anugraha Systems (Rajalakshmi Engineering College), Chennai, India
Web Development Intern — Jan 2023 – Jan 2023

- Developed end-to-end web applications using front-end and back-end technologies, implementing full stack solutions across the software development lifecycle.

PROJECTS

Geospatial Building Orientation Detection System — Aug 2025 – Present

- Built Python geospatial pipeline using Shapely, R-tree indexing and ijson streaming to process 11M+ building footprints with 95% coverage for CA/TX addresses.
- Implemented geometric Edge Analysis with outward normal selection and street name matching to resolve 180° orientation ambiguities on corner lots.
- Achieved 95% memory reduction and sub-second query times through spatial indexing and streaming JSON parsing.

Intelligent Human Detection System For Emergency Fire Evacuation Using YOLOv8 — Aug 2024 – Apr 2025

- Fine-tuned YOLOv8 deep learning model on custom thermal imaging dataset achieving 89.6% mAP50 and 86.7% precision for human detection in low-visibility fire evacuation scenarios
- Developed Flutter mobile application with video processing pipeline, YOLOv8 inference engine for post-incident rescue analysis.

AI-Optimized Energy Consumption Forecasting System — Jan 2024 – Apr 2024

- Developed ML regression model on 1M+ consumption records achieving 0.038 kWh MAE (95% improvement) for real-time energy forecasting
- Performed feature engineering and EDA using Python (pandas, scikit-learn) identifying peak consumption patterns for grid optimization

INTERESTS/ACTIVITIES

- Awarded Best Social Impact Project for developing a Mental Health Chatbot at Rajalakshmi Engineering College's Centre For Design Thinking (April 2024).