# Ashvath Venkataramana Cheppalli

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Portfolio: 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

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| **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).