Hemanth Vadlamani

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Passionate software engineer and senior Computer & Data Science student with experience building scalable systems and AI-driven solutions, eager to apply technical and analytical skills to drive real-world impact

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EDUCATION

Worcester Polytechnic Institute   *May 2026*

B.S. in Computer Science & Data Science

- **Honors**: *Dean's List (2023-2025),* Charles O Thompson Scholar
- **Related Coursework:** ML Ops, Machine Learning Software Engineering, Algorithms and DSA, Big Data Management, Databases

SKILLS

Programming Languages: Python, C++, C#, Java, JavaScript/TypeScript, SQL, R

Data Science & Machine Learning Libraries: TensorFlow, Scikit-learn, NumPy, Pandas, PyTorch, PySpark

AI Frameworks: Google ADK, RAG, MCP, LangGraph, A2A, Crew AI, Observability, ML Ops

Web Frameworks & Cloud Services: React, Angular, .NET, Spring, Rest APIs, AWS, GCP, Docker

Databases: PostgreSQL, MySQL, Oracle, MongoDB, SQL, Hadoop/Hive

WORK EXPERIENCE

Forward Advantage, *Software Engineer Intern*   **Fresno, CA,** *May 2025 – Present*

- Contributed to developing Capture-It, a healthcare image capture and data management app, using .NET and SQL
- Improved usability by designing and enhancing UI features, increasing user satisfaction and efficiency
- Developed a script to analyze 10 million healthcare-related files using performance optimizations, improving accuracy by detecting blank files and data review issues, and cutting runtime by 50%

Research Assistant @ Yossi Labs, *AI Researcher*   **Worcester, MA,** *Aug 2025 – Present*

- Engineered an autonomous Exploratory Data Analysis (EDA) system using Google's Agent Development Kit (ADK) and Gemini 2.5 Flash, automating repetitive data profiling and visualization workflows
- Deployed React UI, FastAPI backend with Observability for probabilistic LLM reasoning and stack trace
- Implemented and optimized Mixture of Experts architecture using PyTorch with Zeus to minimize energy consumption and improve model efficiency

Teaching Assistant @ Computer Science Department   **Worcester, MA,** *Aug 2025 – Present*

- Helped with grading, providing support and guidance to students in Databases, Algorithms and Data Structures courses

ZoomInfo, *Software Engineer Intern*   **Waltham, MA,** *April 2023 – May 2023*

- Implemented Retrieval-Augmented Generation (RAG) AI chatbot interface to dynamically retrieve and synthesize answers from ZoomInfo FAQ documentation
- Integrating OpenAI, LangChain, and Python to significantly automating and enhancing customer support responses
- Implemented text embedding pipelines, vector store, and prompt management using LLM frameworks, enabling the chatbot to deliver contextually accurate, FAQ-sourced responses to user queries

PROJECTS

Airline Agent - DSPy Agentic AI | Agentic AI, DSPy, MLflow, Python   *June 2025*

- Developed agentic AI application using the DSPy framework, MLflow for agent behavior tracing and experiment analysis
- 74% accuracy improvement in RAG agent via DSPy Optimizer for enhanced tuning and optimization

Job Application Portal | Python, Flask, JavaScript, AWS, Docker   *May 2025*

- Engineered a responsive Job Application Portal , utilizing JavaScript and Flask to deliver a seamless asynchronous application tracking experience
- Designed and secured robust RESTful endpoints, implementing JWT authentication and role-based access control (RBAC) to protect sensitive applicant data across the full stack
- Streamlined the deployment by containerizing the application with Docker on AWS ECS, enabling consistent development-to-production environments