Jack P. DeMarinis

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Summary

Versatile computer engineer with a multidisciplinary background spanning software, hardware, and AI systems. Experienced in developing solutions that bridge embedded systems, robotics, and modern AI applications, including large language models and retrieval-augmented generation. Comfortable working independently or in cross-functional teams, with a strong record of delivering practical systems under real-world constraints.

Education

University of Rhode Island, Kingston, RI *Expected May 2026*
Master of Science in Electrical Engineering

- Accelerated B.S./M.S. (ABM) Program
- GPA: 3.90 / 4.00

University of Rhode Island, Kingston, RI *May 2025*
Bachelor of Science in Computer Engineering

- GPA: 3.90 / 4.00

Technical Skills

Languages: Python, C++, C, Bash, HTML/CSS, JavaScript, MIPS Assembly, LC-3
ML / AI: PyTorch, Hugging Face Transformers & Datasets, LoRA / PEFT fine-tuning, OpenAI API, embeddings, vector search (FAISS), RAG pipelines, prompt engineering
Systems / Deployment: Linux, Docker, Flask, REST APIs, GitHub Actions CI/CD, cloud AI services (GCP)
Tools & Design: Unity, Fusion 360, AutoCAD, MATLAB, LTSpice, Multisim, Mathcad, VHDL, OpenMV IDE

Experience

Graduate Research Assistant Sep 2025 – Present
University of Rhode Island, Kingston, RI

- Engineered multi-agent systems to automate complex analysis and decision pipelines.
- Built a realistic swarm simulator supporting distributed agent coordination.
- Developed VR and desktop simulation environments using Unity.

Undergraduate Research Assistant May 2024 – Present
University of Rhode Island, Kingston, RI

- Developed specialized AI chatbots using large language models and retrieval-augmented generation.
- Built cohesive backend systems using Flask and modern front-end tooling.
- Integrated external APIs to deliver reliable, production-quality systems.

Computer Engineering Intern May 2024 – Jan 2025
Electro Standards Laboratories, Cranston, RI

- Automated internal systems using Python and C on Raspberry Pi platforms.
- Diagnosed and resolved electrical and software issues through systematic testing.
- Produced technical documentation to support long-term maintainability.

Software Engineering Intern Jun 2023 – Dec 2023
IGT, West Greenwich, RI

- Resolved Linux system issues using command-line debugging tools.
- Developed Bash, C, and C++ code for device-level API integration.
- Implemented OCR pipelines to improve system accuracy and performance.

Engineering Intern Mar 2022 – Aug 2022
Sage Engineering and Contracting, Westfield, MA

- Supported civil engineers with site and floor plan design using AutoCAD.
- Assembled and operated an ABB robotic arm for automated manufacturing tasks.
- Assisted with project budgeting and technical planning.

Selected Projects

Agentic RAG Chatbot

- Built a multi-agent retrieval-augmented generation system integrating LLMs with structured reasoning.
- Implemented embedding pipelines and FAISS vector search to reduce hallucinations.
- Packaged as a Dockerized Flask API with CI/CD deployment workflows.

AI Meeting Assistant

- Developed an end-to-end meeting intelligence platform including transcription and summarization.
- Integrated Whisper and GPT-based models for action-item and agenda extraction.
- Automated structured note distribution and workflow integration.

Senior Capstone: Robotic Assembly & Inspection

- Designed an automated PCBA assembly and inspection workstation.
- Integrated robotics, sensors, and control software into a unified system.
- Modeled mechanical components and fabricated custom parts via 3D printing.

Activities & Honors

Dean's List (every semester)
Raymond M. Wright FastTrack Scholarship (2025–2026)
URI Wrestling Team
Accelerated B.S./M.S. Program Admit