

Yassin Lahrim

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Objective Statement: Seeking AI and robotics-related software engineering roles focused on embedded systems, intelligent control, and machine learning applications.

EDUCATION

Bachelor of Science (B.S.) - Computer Engineering May 2026 (Expected)
Virginia Tech, Blacksburg, VA

Events/Activities: AMP Lab, e-NABLE, ML Club, Solar Car, VT HACKS, HackViolet, VTLUUG

EXPERIENCE

Radar and Machine Learning Research Intern July 2024 - August 2024
Carderock NSWC, Bethesda, MD

- Presented technical findings to **industry experts** on **AI-driven radar analysis applications**.
- Developed **machine learning models** that achieved **95% accuracy** in predicting mesh radar signatures.
- Cut setup time from **10+ hours to under 1 hour** by automating configuration with web scraping.

Undergraduate Research Assistant Sep 2023 - May 2024
Hume Center for National Security and Technology, Blacksburg, VA

- Simulated **underwater ad-hoc networks** in **C++** to support real-time hardware prototyping.
- Led weekly progress meetings with **professors** to discuss technical challenges and solutions.
- Developed and optimized **control models** for real-time embedded sensor applications.
- **Developed mobility and channel models**, increasing network simulation precision.

Electrical Lead Mar 2024 - Dec 2024
SolarCar Power Subteam at Virginia Tech, Blacksburg, VA

- Designed an **optimized battery box assembly**, improving **thermal management and wiring efficiency**.
- Conducted **precision resistance tests** on **18650 battery spot welds** using the **Four-Wire Kelvin method**.
- Evaluated **MPPT solar array modules** for optimal **power performance tuning**.

Hardware Technician Oct 2023 - May 2024
RoboGrinder at Virginia Tech, Blacksburg, VA

- Assembled and **programmed robots** for **national-level competitions**.
- Wrote **hardware documentation** to speed up **onboarding for new team members**.
- Designed **power system schematics**, improving task execution efficiency.
- Assembled, debugged, and integrated mechanical/electrical components on various team robots.

Projects

Blood Pressure Monitoring System Sep 2024 - Present

- Developed a **pulse detection algorithm** for **real-time vitals tracking**.
- Integrated **signal processing techniques**, improving **blood pressure accuracy by 15%**.
- Engineered a **96%-accurate monitoring system**, including **hardware design and soldering**.

MagiApp.org – LLM Powered Chat Bot Jan 2025 - Present

- Deployed **high-availability infrastructure** using **Cloudflare Pages** and **Render**, reducing downtime.
- Developed an **LLM response aggregator**, improving answer **accuracy by combining outputs from multiple AI models**.
- Built an LLM-powered chatbot with a **FastAPI backend**, optimizing AI response speed **by 70%**.
- Optimized FastAPI performance through parallelization, reducing query times by 70% from 35s to under 10s.

SKILLS

Programming: Python, Java, C++, C, MATLAB

Embedded & Hardware: PCB Design, Embedded C, Soldering, CAD, Circuit Analysis

Machine Learning: PyTorch, TensorFlow, NumPy, SciPy, OpenCV