

AADITYA SHARMA

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EDUCATION

Virginia Tech

B.S. in Computer Engineering, Minor in Computer Science

Expected May 2027

Blacksburg, VA

- Focus: Controls, Robotics & Autonomy and Machine Learning | GPA 3.70 | Dean's List | Honors College

TECHNICAL SKILLS

Languages: C, C++, Python, Java, JavaScript, TypeScript, SQL (PostgreSQL / PL-pgSQL)

Embedded & Hardware: Firmware, real-time systems, control architectures, microcontrollers, sensor/actuator control

Robotics & AI/ML: ROS, Computer Vision, PyTorch, Pandas, ARIMA, Time-Series Modeling, Vector Embeddings

Web & Data: Next.js, React, Tailwind CSS, Supabase, PostgreSQL, Row-Level Security, API, REST

Tools: Git/GitHub, VS Code, CMake, KiCAD, Fusion 360, OnShape, Pgvector, Microsoft Office

EXPERIENCE

Statistical Process Control & R2R Engineer (Intern)

May 2025 – Aug 2025

Micron Technology, Inc.

Manassas, VA

- Engineered a proprietary Change Point Monitoring (CPM) system deployed globally across Micron fabs to detect unintended run-to-run (R2R) process shifts in real time from live process data
- Developed ARIMA-based predictive models on GeRM RPA data to surface trends, shifts, and clamps early, proactively flagging potential wafer-processing issues before they affected yield
- Automated weekly SPC metric reporting by integrating Tableau API calls to extract and structure data, eliminating manual report assembly and improving data accessibility for engineering teams

Undergraduate Teaching Assistant

Aug 2024 – Present

Virginia Tech — ECE 2564 (Embedded Systems) & ECE 2514 (Computational Eng.)

Blacksburg, VA

- Mentor students in C/C++ programming, microcontroller fundamentals, and hardware/software debugging; lead hands-on lab sessions using Git, CMake, and logic visualization

PROJECTS

WorkCell 26 — Autonomous 3D Print Farm

Aug 2024 – Present

ECE & Software Lead, VT Competitive Robotics Organization

- Architected a fully autonomous multi-printer manufacturing workcell — dual printers, plate-swapping, storage automation, and a continuous print queue — recognized at the National Robotics Challenge
- Implemented a novel closed-loop auto-calibration system using computer vision and AprilTags with dynamic camera tracking, achieving 0.2 mm gantry positioning accuracy
- Built inventory-optimization algorithms that automate shelf-placement logic from print-height constraints and real-time storage availability, coordinating firmware, sensor/actuator control, and backend software

Petal — AI-Powered Notes Application

Founder & Full-Stack Developer

- Built a full-stack app that auto-categorizes notes by semantic meaning using OpenAI embeddings (text-embedding-3-small) and pgvector cosine similarity in a hybrid vector + LLM pipeline
- Engineered a self-improving learning loop where user corrections trigger background workers that continuously refine category embeddings, running on an all-in-Postgres async job system (pgmq, pg_cron, pg_net) driving Deno Edge Function workers
- Developed the full application in Next.js 16, React 19, and TypeScript with authentication, a custom rich-text editor with voice dictation, and Row-Level Security for per-user data isolation

LEADERSHIP & INITIATIVES

President, VT Competitive Robotics Organization (VT CRO)

Aug 2025 – Present

- Lead Virginia Tech's largest robotics organization — 140+ engineers across 7 technical design teams and 4 operational divisions — directing strategy and vision across electrical, mechanical, and software systems

Founder & Teacher, Courses By You

Chandigarh, India

- Designed and taught a certified coding, robotics, and debate curriculum to 350+ students

Founder, Plasmassist / Covassist

Remote / Chandigarh, India

- Built a plasma-donation platform that saved 15 lives and reached 1,500+ people during COVID-19

HONORS & AWARDS

Gold Award & Honda Innovation Award — National Robotics Challenge; OpenSauce 2026 exhibitor (WorkCell 26)

Best in Course — Integrated Design Project (Spring 2025); Advanced Embedded Systems pilot cohort, VT