Eshan K. Iyer

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EDUCATION

Thomas Jefferson High School for Science and Technology — Alexandria, VA

Computer Systems Advanced Diploma, Class of 2027 — **Cumulative GPA (weighted): 3.998**

Relevant Coursework: AP Calculus BC, AP Statistics, AP Physics 1, Web & Mobile Application Development (Post-AP), AP German Language and Culture, Computer Vision, Computer Systems Research Lab

EXPERIENCE

Research Internships — 2025 – Present

Student Research Intern (remote and hybrid)

- **Johns Hopkins (Prof. Zongwei Zhou, BodyMaps, 2026):** showed that physical slice context improves CT organ segmentation on a new external spleen cohort; added CT windowing presets to the PanTS viewer.
- **Bucknell (Prof. Joshua Stough, 2026):** ejection fraction from echocardiography and cardiac MRI. Trained a U-Net to 0.907 mean Dice on CAMUS; first author on a paper accepted to SPIE Medical Imaging 2027.
- **George Mason (Prof. Carlotta Domeniconi, 2026):** used LLMs to find depression symptoms in text; fixed a bug that blocked evaluation and added a 15-test suite. Also: Schar School NASA data science intern (2025).

Atlas Autoware (TJHSST Self-Driving Car Team) — Aug 2023 – Present

Founder & President

- **Lead a 14–16 person team** building an autonomous 1/10-scale race car for RoboRacer competitions.
- **Ran the sponsor drive** that brought in hardware from three companies and $2,000 in donations for IROS 2026.

theCoderSchool, McLean — Sep 2026 – Present

Code Coach (part-time)

- **Teach kids to code** in Python and CS fundamentals, in small groups and one-on-one.

TJ Investment Club — Oct 2023 – Sep 2024

Research Team Head

- **Lead a small research team** behind the club's mock portfolio; pitched a stock idea as an ECONET analyst (2024).
- **Taught myself to read an industry** (IoT) well enough to defend a call, and to change it when the data didn't.

SPRING Political Advocacy Group — Dec 2023 – Sep 2024

Policy Writer

- **Write plain-language articles** on local transit problems (1,200+ reads each); helped support two transit bills.

PROJECTS & PUBLICATIONS

- **SPIE Medical Imaging 2027 (accepted poster):** E. Iyer and J. V. Stough, "Prior-aware corrections for side-of-threshold calls in automated ejection fraction classification," Computer-Aided Diagnosis conference, Vancouver, February 2027.
- **Senior research, TJ Computer Systems Lab (2026):** imitation learning for our F1TENTH car; paper in progress.
- **Minecraft wolf-taming agent (working paper, 2026):** behavior-cloned ~5,000 scripted demos into OpenAI's VPT model; 24% taming vs. 0% for STEVE-1 on development seeds.
- **SSRN preprints (sole author, July 2026):** two papers on terrain-conditioned diffusion for urban planning, including a housing-siting case study in the Zurich agglomeration.
- **Pumpkin (open-source Minecraft server in Rust):** 10 merged pull requests fixing vanilla-parity bugs.
- **Home lab and backyard solar (2026):** run mail, search and automation at eshnetwork.space on an Intel NUC; built a ~2 kW grid-tied solar array on microinverters and took the design to Dominion Energy's net-metering team.

HONORS

- USA Biology Olympiad (USABO) Semifinalist (2x, top ~10%)
- US Medicine and Disease Olympiad (USMDO) Gold Medalist (2x, top score in country)
- International Medicine and Disease Olympiad (IMDO) Bronze Medalist (2025, top-8 US qualifier)
- American Computer Science League (ACSL) Finalist (2x) · Congressional Award, Gold Medal
- National Merit Commended Student (2026, top ~3%) · President's Award for Educational Excellence (2021)

SKILLS & INTERESTS

Technical: Python, Rust, Java, React, ROS 2, Docker, Linux, ArcGIS; machine learning, computer vision

Interests: AI, medical imaging, autonomous systems, renewable energy, cycling, theater, saxophone