

Aidan Liu

703-420-9892 aidan2023liu@gmail.com <https://arti-dev.github.io/>

Education

University of Virginia, School of Engineering and Applied Science Expected May 2027

BS, Major: Computer Science, Minor: Data Science, GPA: 3.906, Major/CS GPA: 4.0

Organizations: First Year Players, Student Game Developers, Cavalier Autonomous Racing

Relevant Coursework: Data Structures and Algorithms II, Intro to Cybersecurity, Computer Systems and Organization II, Software Engineering, Defense Against the Dark Arts

Experience & Volunteering

Motion Planning Software Engineer, Cavalier Autonomous Racing May 2025 – present

- Joined the highly selective team following its **2024 Indy Autonomous Challenge victory**
- Collaborated with the team to develop *cavsim*, an environment to research, test, and evaluate planning algorithms for our autonomous racecar, accelerating iteration cycles and reducing real-world testing risk.
- Traveled to Laguna Seca to support on-site testing at the Indy Autonomous Challenge in Summer 2025.

Event Staff Student Manager, University of Virginia Event Management January 2025 - present

- Leading student staff and coordinating event logistics to support thousands of campus events each year.
- Facilitating day-to-day operations of the University's student hub through clear communication, problem-solving, and peer support.

Projects

Waste Classification Machine Learning Project Python, PyTorch, Jupyter

Trained and evaluated convolutional neural networks (CNNs) on a 20,000-image dataset to classify waste as organic or recyclable. Performed data preprocessing, exploratory analysis, and data augmentation to improve model generalization and accuracy, achieving 94% accuracy with a transfer-learned CNN.

Carpool Buddy Rideshare Platform for University Organizations Django, Python, Heroku

Built a full-stack web application designed for university clubs to organize rideshares for events, including user profiles, messaging, and moderation tools. Served as the go-to development lead for a five-person team to debug complex issues, resolve Git merge conflicts, and support development and deployment using Django and Heroku.

Fill in the Wall Minecraft Game Server Java, SpigotMC, MySQL, GitHub Actions

Developed a Java multiplayer game plugin using object-oriented architecture and event-driven design, and automated continuous deployment of the game to a dedicated server using GitHub Actions. Marketed a gameplay trailer on YouTube that received 270 views and 20 likes within one day.

Honors and Certifications

International Collegiate Programming Competition, Regional Competition 2023-2025

Consistent top 10 placements out of ~90 teams across three years in team algorithmic programming competitions.

Virginia Science Olympiad, State Competition 2022-2023

Multiple top 5 placements including 1st place in Flight in 2023.

First Tee Greater Washington, DC: Jonathan Wildes Memorial Scholarship for \$2,500 2023

Tripoli Rocketry Association: Level 1 High Power Certification 2024

Skills

Programming Languages/Tools: Python, Java, HTML/CSS, GDScript, IntelliJ, WSL, GitHub Actions, SQL, C++

Languages: English, Chinese (Intermediate)