Violet Monserate

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Computer Science TA and Computer Engineering & Philosophy student passionate about hardware, robotics, accessibility, and computer security. Experienced in collaborative development across software and CAD, with a strong background in STEM education.

Skills

Hard Skills: Java, C/C++, C# (.NET Core, LINQ, Entity Framework), SQL, Oracle (ORDS, PL/SQL), Python (NumPy, Pandas, TensorFlow, Flask), ROS, JS/TS (React, Vue.js, Next.js, Vite), HTML/CSS, Git, Verilog, SolidWorks, Altium
Soft Skills: problem-solver, detail-oriented, creative, adaptive, fast learner, concise documentation, time management

Education

University of Washington-Seattle, Computer Engineering & Philosophy: Ethics | **3.96 GPA**   *09/2023 - 06/2027*
Computer Science: Data Structures/Algorithms, Systems Programming, Hardware/Software Design, Computer Security, Cryptography, Compilers, Databases, Probability for Computing, Digital Design, HCI, Autonomous Robotics
Philosophy: Computer Ethics, Philosophy of Science, Philosophy for Children, Intergenerational Ethics, Neuroethics
Raisbeck Aviation High School, High School Diploma | **4.0 GPA**   *09/2019 - 06/2023*

Projects

Rover Remote Control UI - JavaScript, React, Vite, Cesium, C++, Git | Husky Robotics Team   *10/2023 – 06/2025*
- Write React widget to track position, heading, and path of rover against a 3-D topographical map with Cesium
- Develop back-end server to deliver glTF tiles with a RESTful URI to operate without an internet connection
- Improve rover controls, telemetry, and pathing, updated and delivered through React Redux

Mobile Manipulator- CAD, Onshape, ROS2, Python | WEIRD Lab, Paul G. Allen School   *03/2024-09/2024*
- Designed networking and physical mobile platform utilizing a holonomic drive base and two 6-DOF robot arms
- Received mentorship from advisor and graduate students within the WEIRD Lab

Robot Codebase- Java, Python, C++, Git | Phoenix Force Robotics   *09/2021 - 07/2023*
- Deployed and unit-tested kinematics and path planning for holonomic robot movement and 3-DOF robot arm
- Won Industrial Design Award for custom computer vision system to track fiducial markers and game pieces

Climate Crisis: A Nation in Peril- HTML, CSS, JavaScript | Class Project   *04/2024*
- Developed a choose-your-own-adventure game with numerous conditional events with 6 different endings
- Tested and iterated through custom UIs with Vanilla JavaScript

Experience

Teaching Assistant- Paul G. Allen School of Computer Science & Engineering | Seattle, WA   *08/2024 – current*
- Develop lesson plans to concepts in C, assembly, CS theory, and social impact through lecture/section activities
- Mentor students in office hours to foster problem-solving and collaborative skills

Software Development Intern- INIT SE | Seattle, WA   *06/2025 –09/2025*
- Developed RESTful GET/POST methods for Oracle Database and client onboarding utilizing OAuth 2.0
- Created an Automatic Passenger Counter demo using CAD, documenting details and BOM using Office 365
- Implemented a log parser in C#, utilizing IoC through Dependency Injection (DI) with database extraction and email notifications, enhancing debugging and efficiency

STEM Alternative Spring Break Instructor- University of Washington CELE | Seattle, WA   *01/2025 - 05/2025*
- Developed ~5 hours' worth of culturally competent STEM education for 6th-8th grade students with peers
- Taught and built relationships with ~60 students for 1 week in a rural community in Northeast Washington

Mentor- Changemakers in Computing @ University of Washington-Seattle | Seattle, WA   *01/2024 - 08/2024*
- Collaborated with coworkers to develop and teach a 4-week curriculum about web development (HTML, CSS and JavaScript) and tech ethics to a group of ~40 high school students from underrepresented backgrounds

Coding Instructor- Coding with Kids | Redmond, WA   *06/2023 - 08/2024*
- Designed curriculum for >450 primary school students and integrated coding into interdisciplinary projects
- Maintained 90% retention, and positive feedback from 95% of parents and guardians

Scholar - Apple & Kode with Klossy | New York, NY   *06/2022 - 08/2022*
- Learned best practices for AI and Machine Learning to create app that identifies and sorts recycling
- Presented the AI app to an audience of >400 in Apple 5th Ave @ NYC, including AI/ML engineers