**Violet Monserate**

Seattle, WA | violetmonserate@gmail.com |  (425) 970-5779 |  <https://ctrl-vi.github.io/>

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