Violet Monserate

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Incoming Software Development Intern @ INIT SE and Computer Engineering & Philosophy: Ethics student excited about hardware, robotics, accessibility, and computer vision. Track record of collaborative development, from software to CAD. Extensive experience as a STEM educator in primary and secondary schools.

Education

University of Washington-Seattle, Computer Engineering & Philosophy: Ethics | **3.96 GPA**   *09/2023 - 06/2027*
Math: calculus III, linear algebra, differential equations
Computer Science: computer security, statistics/probability for computing, data structures/algorithms, systems programming, databases, digital design, HCI, hardware/software design, autonomous robotics
Philosophy: intro to logic, philosophy for children, intergenerational ethics, neuroethics, computer ethics
Raisbeck Aviation High School, High School Diploma | **4.0 GPA**   *09/2019 - 06/2023*

Projects

Rover Remote Control UI - Git, JavaScript | Husky Robotics Team   *10/2023 - Present*
- Writing 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, ROS, 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- Git, Java, Python, C++ | 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 | Game Jam Submission   08/2024
- Developed a choose-your-own-adventure game with numerous conditional events with 6 different endings
- Developed and iterated through custom UIs with Vanilla JavaScript

Experience

Teaching Assistant- University Of Washington-Seattle | Seattle, WA   *08/2024 - Present*
- Develop lesson plans and facilitate lectures of ~50 people with instructor
- Gauge student engagement and adjust to ensure active learning
- Grade student work to provide constructive feedback and guide student growth and improvement

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 multidisciplinary STEM content 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 curriculum about web development (HTML, CSS and JavaScript) and tech ethics to a group of ~40 high school students
- Managed program website in HTML and JavaScript

Coding Instructor- Coding with Kids | Redmond, WA   *06/2023 - 08/2024*
- Designed curriculum for >450 primary school students and integrated coding into interdisciplinary projects
- Accommodated diverse skill levels, learning styles, and special needs
- 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 engineers

Skills

Hard Skills: Java, C/C++/C#, Python (NumPy, Pandas, TensorFlow, Flask), ROS, Linux, JS/TS, HTML/CSS, SQL, Git, React, Next.js, Vue.js, Verilog, Solidworks, Altrium
Soft Skills: problem-solver, detail-oriented, creative, adaptive, fast learner, concise documentation, time management