

Violet Colwell

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Education

BS ECE, MS CS: Worcester Polytechnic Institute [2022-Present]: Real-Time Embedded Systems | Programming Language Design | On-Device Deep Learning | Advanced Cryptography | Cross-Cultural Communications | Achieving Effective Operations | Big Data Management and Analytics | Data Visualization | Computer Organization and Design | Discrete Time Signal And System Analysis

Skills

Software

Programming Languages: HTML | CSS | Javascript | Typescript | C (Embedded) | C++ | Rust | Bash | Python | Java | Ruby (RoR) | MATLAB

Frameworks, Libraries, and Miscellaneous Technologies: Node | ReactJS | React Native | NextJS | AWS | Docker | MySQL | MariaDB | Firebase | MongoDB | Hadoop | Git | Magento | Laravel | Auth0 | GraphQL | NGINX | Apache 2 | PyTorch | Tensorflow

Web and Mobile Development: Designing and building highly-performant web and mobile applications. Experience includes building secure APIs, backends, and robust/accessible frontends. Also includes Studies in User Experience and Usability.

System Administration: Setting up and administrating servers in AWS and Proxmox.

Hardware

Projects: [SateLights](#) | [Groovebox](#) | [Logic Analyzer](#) | [Bit-Banged Serial Port](#) | [Raspberry Pi Zero Facial Recognition Device](#) | [Wii Nunchuk I2C Library](#) | [MIDI Library](#) | [7 Segment Display Library](#) | [LCD Display Library](#)

Systems and Tools: Arduino | CodeWarrior for NXP | ESP IoT Development Framework | AVRDUDE | Maxim ai8x | Analog Devices MSDK

Experience

Undisclosed Startup [2024 - Present]

Full stack developer and development lead for mobile and web application prototype.

WPI Music Perception and Robotics Lab [2025 - Present]

Developing devices at the intersection of human-robotic interfaces, machine learning, generative music, and sensor signal processing.

WPI BASH Lab [2023 - Present]

Researching distributed machine learning on Low-Power edge devices.

Eduporium [March 2022 - 2024]

User Analytics System: Designed and built a user analytics system that generates nightly user metrics with a corresponding web app for control and data display. Primarily built with Python, NextJS, Docker, and AWS.

Magento Development and Maintenance: Fixing bugs and adding features in Magento, increasing SEO, performance, and security of main site, and performing updates.

4th Mind Comm Tech [2020-2022]

Software development intern, did small tasks like helping explore multi-repo architecture, creating small developer tools, etc.