Micah Woodard

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Professional Summary

Software Engineer with expertise in instrumentation control and user interfaces. Skilled in Python, C++, and MATLAB, with experience designing and implementing scalable imaging and data acquisition systems Adept at cross-functional collaboration and delivering impactful engineering solutions in research settings.

EDUCATION

Columbia University — New York, NY
Bachelor of Science, Biomedical Engineering, 3.8/4.0 GPA — May 2022
Honor and Certifications: Dean's List: 2020, 2021, 2022

College of Idaho — Caldwell, Idaho
Bachelor of Science, Mathematics-Physics, 3.9/4.0 GPA — May 2020
- Music and Health/Psychology minors

Honor and Certifications: Gipson Fellows Honors Program, Dean's List: 2018, 2019, 2020, Multivariable Calculus Award, and College of Idaho Presidential Merit Scholarship

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EXPERIENCE

Software Engineer I - *Scientific Inst. & Process Eng., Allen Institute* — January 2025-Present

- Supported an acquisition platform used for large-scale behavioral experiments, enabling data collection across hundreds of mice; currently refactoring the system to improve modularity, robustness, and long-term maintainability.
- Designed and implemented BSKI, a modular barcode-scanning and tissue ID management tool, reducing manual data entry errors and improving sample tracking reliability.
- Developed a web-based UI for a custom microtome, increasing operational visibility and enabling real-time monitoring for the research team.
- Built control software and a web UI for a fluidics system used in washing and processing stained tissue samples.

Optical Engineer I - *Molecular Anatomy, Allen Institute* — August 2022—January 2025

- Designed and implemented modular hardware control software and GUIs for Exa-SPIM light-sheet system, supporting acquisitions generating ~200 TB per imaging session.
- Optimized multi-camera streaming and data ingestion pipelines in collaboration with the Chan Zuckerberg Institute, enabling high-throughput Zarr-based acquisitions.
- Worked directly with internal and external labs (Allen Institute, UW, and international partners) to configure and adapt software deployments used by 5+ light-sheet microscopes across 3 institutions.

SKILLS

Programming & Development: Python, C++, MATLAB, React, Qt, Arduino, Ansible, Figma, draw.io
Instrumentation & Tools: Lightsheet Microscopy, System Control Software, Device Driver Development, SolidWorks