Zachariah Craven

Bozeman, MT - zachariah.craven@gmail.com - ZachariahCraven.com

Computer science graduate student with backend Java and SQL experience, testing depth, and shipped open-source work.

EDUCATION

Montana State University, Bozeman, MT **January 2025 - Present**
Master of Science, Computer Science
Relevant Coursework: Algorithms, Security, Compilers, Databases, Computer Systems, Automated Vulnerability Discovery

Montana State University, Bozeman, MT **May 2021**
Bachelor of Science, Cell Biology and Neuroscience

TECHNICAL SKILLS

Languages: Java, SQL, Python, C
Web: HTML, CSS, JavaScript, Jekyll static sites, client-side search
Testing: JUnit, Playwright, test-driven development; unit, integration, and end-to-end testing
Tools: Git, GitHub, GitHub Actions (CI/CD), Maven, Ansible, Linux

PROJECTS

Vet Clinic Management Application (MSU Hypermedia Research Group)
- Developed many of the features for a large-scale, database backed web application for veterinary clinic management, in Java on a custom internal web framework.
- Developed unit and end-to-end tests using JUnit and Playwright.
- vetclinic.zachariahcraven.com

Cat-Script Compiler
- Implemented a compiler for a scripting language in Java using recursive descent parsing, covering tokenizing, parsing, semantic analysis, and JVM bytecode generation, with comprehensive test-driven system testing throughout.
- compiler.zachariahcraven.com

EXPERIENCE

Montana State University, Bozeman, MT **January 2026 - Present**
Graduate Teaching Assistant, Computer Science
- Refactored legacy compiler test suites and developed new JUnit unit tests for a redesigned course compiler, ensuring comprehensive code coverage for assignment codebases.
- Built a command-line interface integrated into a web framework enabling students to issue SQL database queries directly.
- Explain compiler and database concepts to students of mixed technical backgrounds in labs and office hours.

Montana State University, Bozeman, MT **August 2025 - Present**
Student Researcher, Open Source Group
- Core contributor to Notch, an open-source scripting language for the JVM. Designed and implemented the parser's error-recovery and synchronization system, multiple language features, and the interactive REPL.
- Authored JUnit test cases across 16 test classes to provide coverage for committed code and wrote the release pipeline.
- notch.cs.montana.edu

Montana State University, Bozeman, MT **October 2024 - August 2025**
Network Analyst
- Deployed and configured Cisco networking equipment and troubleshot production campus networking infrastructure.
- Automated network configuration by developing Python scripts transforming YAML data for Ansible, reducing manual-entry errors and deployment time.

City-County Health Department, Great Falls, MT **July 2022 - January 2024**
Environmental Health Specialist
- Maintained regulatory data and documentation for regional establishments in internal government software systems.
- Communicated technical and regulatory material to non-technical stakeholders and the public.