Isaac Rider

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Education

University of Missouri — **August 2022 – May 2026**

Bachelor of Science in Computer Science — Minor in Mathematics — *Columbia, Missouri*

Experience

Applications Development Intern — **May 2024 – Present**

University of Missouri – Applications Development Team — *Columbia, Missouri*

- Independently developed a course management system (TED) using Java and Vaadin Flow 24, with minimal supervision and guidance limited to code reviews.
- Designed and optimized UI components and backend services to improve administrative workflows for faculty and staff.
- Collaborated with senior developers on testing, deployment, and code quality to ensure reliability and maintainability.

Undergraduate Research Assistant — **June 2024 – Present**

Department of Electrical Engineering and Computer Science — *University of Missouri, Columbia, Missouri*

- Developing computational models of bladder function by integrating neurophysiological data into simulations.
- Implementing Python algorithms to analyze neural control mechanisms and test model accuracy.
- Collaborating with faculty to refine methodologies and document research findings for future publications.

Lawn Care (Self-Employed) — **May 2018 – Present**

Lawn Care Provider — *Lee's Summit, Missouri*

- Delivered professional lawn care services to residential clients, maintaining long-term customer relationships.
- Performed equipment maintenance and repairs, minimizing downtime and improving service efficiency.

Projects

CropAI — **November 2024**

Python, APIs, JavaScript, AI

- Developed an AI-powered tool that provides farmers with crop care insights using image analysis and environmental data.
- Integrated Google Images, ChatGPT, OpenMETRO, and SoilGrids APIs to deliver tailored, real-time crop health recommendations.

Dungeons and Dragons Game — **April 2024**

Java, Eclipse

- Engineered an interactive D&D game in Java, applying object-oriented principles for modular and reusable code design.
- Implemented polymorphism and inheritance to enable diverse character classes, abilities, and gameplay flexibility.
- Created a turn-based combat system with extensible logic, allowing for future expansion of mechanics and storylines.

Technical Skills

Languages: Python, Java, C, C++, C#, SQL

Frameworks/Tools: Vaadin Flow 24, Git, GitHub, MySQL, Oracle DB, Eclipse, IntelliJ, VS Code

Platforms/Systems: Linux, Windows

Leadership

Boy Scouts of America — **August 2018 – Present**

Assistant Scoutmaster — *Independence, Missouri*

- Mentored younger scouts through rank advancements and leadership development.
- Organized and led outdoor expeditions, teaching survival, navigation, and teamwork skills.