Will Culpepper

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EDUCATION

Colorado School of Mines, Golden, CO **B. S. May 2023**
Major: Computer Science

SKILLS

Programming Languages: Java, C/C++, Python (with Flask), SQL (PostgreSQL), HTML, CSS, JavaScript, RISC-V, R, Bash
Programming Skills and Frameworks: Agile development, data structures, OOP, algorithm design, recursion and pathfinding, JUnit testing, OpenGL (including GLSL), relational database management, version control (Git), code troubleshooting
Other Computer Skills and Certifications: Eclipse IDE, JetBrains IDEs, Vim, Linux CLI (Ubuntu & Raspbian), RStudio, Microsoft Office Suite, CompTIA ITF+ Certification
Team Skills: Technical communication, scientific writing, project/time management, interdisciplinary teamwork
Non-Computer Technical Skills/Proficiencies: Strong math and science background (trigonometry, linear algebra, calculus, physics), game design and development

WORK EXPERIENCE

Temporary Aide, Colorado School of Mines Student Life **Present**

- Currently working as support staff for the Student Life office, as well as conducting work on assigned projects. Most recently distributed passes for Denver public transportation to the student body.

Teaching Assistant, Colorado School of Mines **January 2020 – December 2022**

- Instructed CSCI 441 (Into to Computer Graphics), which introduces students to programming graphics with OpenGL and C++.
- Instructed CSCI 250 (Building a Sensor System) which combines hardware and software interfaces on a Raspberry Pi for data processing.
- Instructed CSCI 102 (Intro to CS lab) to help students improve Python programming skills.

Field Session, Colorado School of Mines **Summer 2022**

- Worked with a client in the Department of Computer Science to build a new version of the auto-grading system for intro CS classes. Learned and developed skills in web development and Agile design.

RESEARCH EXPERIENCE

Working Memory in Integrated Robot Architectures **October 2019 - May 2021**

- **Project description:** Implementation of two models of working memory and the experiment used to evaluate those models. Work used with DIARC architecture to generate conversation more naturally between humans and robots.
- **Publications:** Williams, T., Johnson, T., Culpepper, W., Larson, K. (2020). Towards Forgetting-Sensitive Referring Expression Generation for Integrated Robot Architectures. *Posters at the eighth ACS conference on cognitive systems.*

IPOWER: Incremental, Probabilistic, Open-World Reference Resolution **June 2021 – September 2021**

- **Project Description:** Implementation and evaluation of two algorithms to assist in reference resolution.
- **Publications:** Culpepper, W., Bennet, T., Silva, R., Jackson, R. B., Williams, T. (2021) IPOWER: Incremental, Probabilistic, Open-World Reference Resolution. *In: Proceedings of the forty-fourth Cognitive Science Society conference on cognitive diversity.*

PERSONAL PROJECTS

- **OpenGL Render Engine**
  - Semester project for Advanced Computer Graphics, built a ray-traced render engine using OpenGL.

ACTIVITIES/HONORS

Computing Research Association Award for Outstanding Undergraduate Research (Runner-Up) **May 2022**