Colin Siles

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EDUCATION

Colorado School of Mines, Golden, CO   **B.S. May 2022**
- <u>Major</u>: Computer Science (Data Science Focus)   GPA: 4.0
- <u>Relevant Coursework</u>: Data Structures, Software Engineering, Data Science
- <u>Campus Involvement</u>: CS102 (Intro to CS Lab) TA, ACM Project Manager and Treasurer

SKILLS

- **Programming Languages:** Python, C++, JavaScript, Java
- **Machine Learning:** Tensorflow, Keras, Scikit-learn, Numpy, Pandas, Matplotlib, Deep Learning
- **Full-stack Development:** HTML, CSS, React, Flask, SQLite, PostgreSQL

WORK EXPERIENCE

Software Engineer Intern - CACI (Remote)   *June 2020 - Aug. 2020*
- Developed a through-wall human pose estimation system to support search and rescue operations
- Created and optimized a deep learning model in Python with Tensorflow to analyze RF data, and predict the location of human body parts, through walls, with an average error of only 16cm
- Implemented custom loss functions and applied regularization techniques to prevent overfitting and gradient explosion on a model with more than 4 million trainable parameters
- Constructed an automated data pipeline that processed nearly a GB of cross-modal data per hour

"Visplay" Project Manager - Colorado School of Mines ACM (Golden, CO)   *Sept. 2019 - Present*
- Led a team of students in developing a scalable, resilient, and more reliable distributed system to display news, videos, and more, on the dozens of digital displays across Mines' campus
- Designed a robust framework to store arbitrary data structures across any distributed system
- Implemented agile principles to manage the project, enhancing the development process

PROJECTS

"Gearbox"   *Sept. 2019 - Present*
- Designed and implemented an extensible JavaScript framework to simulate reinforcement learning environments (e.g. games), to streamline the development of AI agents
- Developed a well-tested, multi-layered API to support extensibility and ease of development

"Hand of God" (HackCU 1st place use of TapStrap, 2nd place Overall)   *Feb. 2020*
- Developed a novel IoT device control system based on pointing and gesturing, using a TapStrap
- Created a multi-device IoT network using a Raspberry Pi, WiFi-capable dev boards, and a custom RESTful API implemented in Python with Flask

ACTIVITIES & INTERESTS

- CS@Mines Outreach Volunteer, Oredigger Camp (Mines Freshman Orientation) Counselor
- Learning new skills, ideas, and technologies, then sharing my knowledge with others
- Reading, Running, Cooking, and Rubiks Cubes