Colin Siles

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EDUCATION

Colorado School of Mines, Golden, CO **B.S. May 2022**

- Major: Computer Science (Data Science Specialty) GPA: 4.0
- Campus Involvement: ACM President and Project Manager, CS102 (Intro to CS Lab) TA, Tau Beta Pi Honor Society Member, 2x Oredigger Camp (Mines Freshman Orientation) Counselor

SKILLS

- **Programming Languages:** Python, JavaScript, C++, Java
- **Full-Stack Web Development:** HTML, CSS, React, Next.js, Flask, PostgreSQL
- **Machine Learning:** Tensorflow, Keras, Scikit-learn, Numpy, Pandas, Matplotlib, Deep Learning
- **DevOps:** Docker, Kubernetes, Helm, Terraform, Azure Cloud, GitHub Actions

WORK EXPERIENCE

Software Engineering Consultant Intern - Credera (Denver, CO) *June 2021 - Aug. 2021*

- Configured and deployed a dozen-container Kubernetes cluster, with an automated redeployment pipeline, on Azure Cloud, for a microservices-based e-commerce application
- Implemented an interactive form with React for users to rapidly list a product for sale
- Created and completed stories in the backlog with minimal guidance from more senior engineers
- Led client demos to showcase and gather feedback on development progress

Software Engineering Intern - CACI (Remote) *June 2020 - Aug. 2020*

- Collaboratively developed a through-wall pose estimator to support search & rescue operations
- Designed and iteratively optimized a deep learning model with Keras to analyze spatial RF data, and predict the location of a dozen human body parts, through walls, with an error of only 16cm
- Developed a preprocessing pipeline to interpolate spatial data from spherical to cartesian space
- Developed a custom data loader with Tensorflow to move more than 50GB of data between disk and memory during model training, allowing for zero data-loading delays during training

“Visplay” Project Manager - Colorado School of Mines ACM (Golden, CO) *Sept. 2019 - Present*

- Leading a group of students (despite the constraints of COVID) in designing a more reliable and scalable system to control the dozens of digital displays on Mines’ campus
- Designed and implemented a scalable, ACID-compliant database to store arbitrary unstructured data across any distributed system

PROJECTS

Recipe Recommender Web App *February 2021 - May 2021*

- Developed a recommender system (collaborative and content-based filtering) for recipes, along with an associated web-frontend to present recommendations with Python and Flask
- Optimized collaborative filtering model to produce recommendation that were 1000 times more relevant than a random baseline, despite very sparse data (99.98% sparse)
- Implemented custom infrastructure to train, evaluate, and deploy the machine learning models given the lack of existing library implementations for recommender systems