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#### **EDUCATION**

University of Colorado, Boulder, CO

Bachelors in Computer Science, December 2019

Notable Courses: Performant Linear Algebra, Concurrent Programming, Database

Systems, Machine Learning, Data Analysis Algorithms, Data Statistics

Languages: Python, Bash, Scala, Java, PostgreSQL, MySQL, Oracle SQL

Github: /joerickard

## **EXPERIENCE**

**TradeWeb** 

January 2020 - Present

Java Developer

New York, NY

I hold an SRE-like role at Tradeweb: solving engineering issues as they arose in production, as well as working to improve the reliability of our software with automation. This is done with unix tooling such as bash, python, java, and control-m. I also complete projects involving new client data ingestion via batch files and FIX feeds over Stunnel. This account and security holding data was then processed with other security master data and various pricing sources for client's use.

#### Enzoic

August 2018 - December 2019

Technical Intern

Boulder, CO

My work at Enzoic involved maintenance and research for a credential integrity verification API. A portion of this role involved indexing millions of credentials leaked online each day. This processing was done with Bash and Python. This data was stored in a large MongoDB database, totaling over 8 billion unique credentials. This database was engineered with hashed table relations, allowing the data to be secure at rest and efficiently query-able.

### **Deep Root Analytics**

May 2018

Statistical Analysis Intern

Washington, DC

At Deep Root I worked to improve the demographic targeting abilities for television ad buys. I made use of unsupervised machine learning techniques to identify behavioral patterns of target groups and to recommend time slots targeting a given group. I also developed data ingestion infrastructure with supporting documentation to be shared with other internal projects. This was done with Python.

The Trade Desk May 2017

Technical Intern

Boulder, CO

At The Trade Desk I worked on an embedded tracking pixel in Javascript which collected data from users' browsers. This work required attention to edge case handling, as most of the errors my code resolved stemmed from rare conflicts with partner servers. My particular contribution improved the worst-case performance, allowing for customer data collection without compromising content load times.

# **AWARDS**

### First Place, AISC ML bias identification

AISC held a competition to identify and explain bias in ML models. This was judged by Fairly.ai. I directed a small team over 2 months to a first place award using Python and the Flask framework to analyze model topography and provide an output dashboard.

#### Second Place. HackCU 48 hour hackathon

My team of three was awarded second place by judges from Twitter for a semantic analysis interface. The interface allowed a user to gauge public reaction to events in real time with an easily understandable visual display. This was done with Python and the Flask framework.