**James Rockett**

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**OBJECTIVE**

To obtain a full-time Software Engineering position starting Summer 2021.

**EDUCATION**

**M.S. Computer Science**  GPA: 4.0

*Georgia Institute of Technology*  *May 2021*

**B.S. Aerospace Engineering, Astronautics**GPA: 3.41

*California Polytechnic State University, San Luis Obispo June 2018*

**Completed Relevant Coursework/Independent Study**

* Advanced Operating Systems, Graduate Introduction to Operating Systems, High Performance Computer Architecture, Machine Learning, Robotics: AI Techniques, CLRS Algorithms, UCSD’s Data Structures, MIT’s Introduction to Computer Science and Programming

**TECHNICAL SKILLS**

**Proficient In:** Python, C, C++, Javascript, SQL, Git, Postgres, Kafka, Docker, AWS (EC2, ECS, S3), gRPC, Protocol Buffers, React, Scikit-Learn, Keras, Matlab, Unix CLI (bash)

**ENGINEERING INTERNSHIPS**

**Kollective – Data Engineering Intern** *Bend, OR – Fall 2019*

* Architected Kafka/Postgres/S3 ETL pipeline to preserve customer preferences associated with delivery records
* Implemented the pipeline requiring two Kafka consumers in their respective applications
* Communicated between applications using Postgres notify/listen events
* Optimized Postgres queries to mitigate database load and increase application throughput
* Stored results in AWS S3 in compressed columnar (.parquet) format to optimize future lookups
* Deployed containerized applications to AWS ECS using Docker and Jenkins for CI/CD
* Profiled and characterized customer usage time series data via preprocessing and unsupervised learning techniques

**InEnTec Inc. – Engineering Intern** *Richland, WA – Summer 2017*

**Cv International – Engineering Intern** *Bend, OR – Summer 2016*

**RELEVANT EXPERIENCE**

**Systems Programming Projects**

* Implemented a multi-threaded file transfer protocol framework on top of C TCP sockets
* Created a proxy server/cache system for the multithreaded file transfer framework using POSIX shared memory and message queues
* Implemented a weakly consistent, multithreaded distributed filesystem using the gRPC/protocol buffer framework in C++

**Machine Learning Projects**

* Compared, optimized and analyzed supervised learning methods such as decision trees, KNN, neural networks, SVM’s, and boosted decision trees on multiple datasets
* Compared and analyzed randomized optimization techniques such as hill climbing, simulated annealing, genetic algorithms, and MIMIC as optimizers for a neural network
* Compared and analyzed k-means and EM clustering methods on multiple datasets in (un)supervised environments
* Conducted EDA in the form of feature selection and transformation using PCA, ICA and clustering techniques

**AI Techniques for Robotics Projects**

* Implemented Kalman and particle filters to localize virtual robots with noisy measurements
* Maintained virtual tank pressure through varying rocket flight stages using PID control
* Implemented A\* and Theta\* algorithms to plan virtual warehouse robot paths in discrete and continuous environments
* Implemented simultaneous localization and mapping (SLAM) to navigate a noisy robot around an unknown environment

**Cal Poly Aerospace Senior Design Project**

* Computationally analyzed range capabilities of space based optical imaging systems for IR and visible wavelengths
* Simulated near earth object (asteroid) population to optimize the performance of a space based imaging system
* Supported preliminary design reviews at SSL, NASA JPL, Northrop Grumman, and presented at Lockheed Martin