Jason Keung

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EDUCATION

University of California, Berkeley **August 2018 - May 2022**

- B.A. in **Computer Science** and **Applied Mathematics**, concentration in Computer Science
- Relevant Coursework: Software Engineering, Machine Learning, Artificial Intelligence, Algorithms, Computability and Complexity, Optimization Models, Data Structures, Machine Structures, Probability and Random Processes, advanced upper division math classes

PROFESSIONAL EXPERIENCE

Aurora | Software Engineer June 2022 - Present

- Designed and implemented new release management service to support **3+** teams building **100+** releases/day with Golang, GRPC, GORM
- Owned and maintained developer remote desktop service, developing metrics and saving ~**$32,000=17% per month** for **800+** users
- Migrated a legacy frontend into React/Redux/Golang app, reaching feature parity within **4 weeks** and later migrated again to new backend
- Delivered a full-stack feature across **3 services** that parsed and prioritized autonomy changes from Git to vehicle operators to test drive

Aurora | Software Engineer Intern May 2021 - August 2021

- Saved Aurora ~$**384,000 per month** on developer cloud computing costs on a Developer Platform team
- Improved the cloud desktop website on AWS Lambda using Python and Terraform, **heavily using AWS** developer tools with boto3
- Stopped developer's instances after a default time period using AWS CloudWatch event rules and allowed for shutdown time extension
- Enabled migration for **800+** users by supporting EBS volumes to be portable between instances and various instance types

Amazon | Software Development Engineer Intern June 2020 - August 2020

- Machine Intelligence and Decision Analytics for Search, improved Amazon.com product search results with automated machine learning
- Built AWS Step Functions pipeline for Amazon search bar behavioral feature dataset expansion, handling **hundreds of millions of rows**
- Improved the daily runtime to process this dataset **8 to 14 times faster** using PySpark + AWS Elastic MapReduce, from ~**8 hrs to 35 min**
- Optimized memory and parallelism configurations for AWS Elastic MapReduce Spark job, saving cloud computing costs for the team
- Merged machine learning model output with the current dataset using AWS Lambda + S3, Python, a trained regressor, and Pandas

SKILLS

Languages and Tools: Python, Java, Golang, C++, C, React, Redux, Javascript, Git, Bazel, Terraform, Spacelift, Numpy, Spark, Pandas
AWS Developer Tools: AWS Autoscaling Groups, CloudWatch, Lambda, EC2, S3, EBS, Elastic MapReduce, Step Functions, Batch
Data Structures, Algorithms, Optimization, Data Science and Machine Learning Methods

- Heuristic algorithms, advanced data structures, space/time complexity analysis, search algorithms
- Convex optimization, classification methods, regression techniques, dimensionality reduction, clustering

Flask, SQLAlchemy, gRPC, REST, GORM, Postgres, Linux, Buildkite, Spinnaker, Kubernetes, Docker, SSH, Monorepo, Jira, Agile

PROJECTS + EXTRACURRICULAR

Project: Stock Trading Algorithm Backtest Framework | Lead Developer | *Data Science Society @ Berkeley* Fall 2021

- Designed and led development of a Python backtesting framework built from scratch, pulling Yfinance data and writing trading strategies
- Created abstract Order, Trader, and Ticker symbol classes to facilitate each member's development of their own trading algorithms
- Evaluated algorithm performance by simulating trades and calculating average market returns, alpha, and portfolio and net asset values

Fansure | Contract Data Analyst | *Data Science Society @ Berkeley* Spring 2021

- Categorized NBA and MLB articles into relevant teams for Fansure, a sports-betting startup providing insights at scale
- Created an NLP model using Pandas, article parsing, weighted counts, and SportRadar API data to output relevant teams from text articles
- Wrote an automated Python CLI script to categorize 100+ hand-tagged articles and achieved **95+% accuracy** for NBA and MLB

SoFi | Contract Data Analyst | *Data Science Society @ Berkeley* Fall 2020

- Performed competitive analysis on personal finance apps for SoFi, a financial technology unicorn company based in San Francisco
- Implemented transaction graph prototypes and recurring transaction prediction using Pandas DataFrames, Matplotlib, Bokeh
- Categorized **600,000+** transactions with a dictionary mapping and created an NLP model for rows with missing data using fuzzy matching

Computer Science Mentors | Senior Mentor for Discrete Math and Probability Theory September 2019 - May 2021

- Taught sections on graph theory, polynomial secret sharing, RSA encryption, and discrete/continuous probability; **overall rating: 4.849**

UC Berkeley EECS Department | Academic Intern for two introductory CS courses January 2019 - August 2019

- Taught 20+ students object oriented programming, recursion, data structures/algorithms, and graph traversals in sections and office hours