

Max Liu

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Education

Carnegie Mellon University

GPA 3.51 | Dec 2021

B.S. in Statistics and Machine Learning, Minor in Computer Science

Relevant Courses:

Parallel Algorithms and Data Structures (15210), Deep Reinforcement Learning (10703), Algorithms and Advanced Data Structures (15351), Machine Learning (10601), Natural Language Processing (11411), Practical Data Science (15388), Computer Systems (15213), Imperative Programming (15122), Functional Programming (15150), Math Finance (21270)

Experience

DoorDash, Software Engineering Intern

May 2021 - Aug 2021

- Built an end-to-end system to detect and mitigate credit card fraud from anonymous users. Integrated api pipeline to gather info on user IPs and visualized metrics on Chronosphere. Backfilled 15 million datapoints for further analysis (used multithreading and async i/o to achieve 300x speedup on api calls, from 20 days to 1.5 hrs. Found \$5 million /yr of chargeback fraud and led meetings to determine appropriate response. Implemented proof-of-payment friction for suspicious users and experimented using A/B testing to evaluate impact on consumer orders and fraudulent activity. Decreased chargeback rate by 70%, projected to save net \$1.6 million /yr.
- Fixed login MFA bug to prevent users from being locked out after multiple successful login attempts. Designed and presented a more logical MFA control flow, and implemented using redis caching.
- Migrated database tables and endpoints from deprecated microservices.

Carnegie Mellon University, TA for 15210 Parallel Algorithms

Aug 2020 - May 2021

- Taught classes and held office hours to help students learn to solve computer science problems using parallel algorithms while minimizing runtime. Explained algorithms in an intuitive and understandable way for different students.

Verkada, Software Engineering Intern

Jun 2020 - Aug 2020

- Pioneered Verkada's audio classification venture. Led meetings with machine learning team to scope project and determine features. Trained proof-of-concept classification models to predict sound classes with 99% accuracy using fastai, and tested models on hardware products.
- Built a data validation system to ensure confidence in subscription and financial data by reporting and correcting data inconsistencies. Designed a staggered approach to amortize runtime cost. Detected and fixed service credit rounding error upon project launch.
- Created an automatic email sender to send customers relevant subscription info, reducing the strain on the sales team.

Easy Time, Software Engineering Intern

Jun 2019 - Aug 2019

- Created game features, including physics for in game objects, player control bindings, UI, and messaging systems.
- Integrated Google analytics API into our website to begin tracking game download metrics. Streamlined website frontend design to encourage more user downloads and increased downloads by 50%.

Skills

Languages: Python, Kotlin, C, SQL, R, SML, Lua

Tech stack: GitHub/Git, Linux, Snowflake, Mode Analytics, Postgres, Chronosphere/PROMQL, Splunk, Sentry, BloomRPC, Postman, Kubernetes, Google Protocol Buffers, SqlAlchemy, pandas, numpy

Other: multithreading/async io, microservices