

Elaine Wang

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Education

University of California, Berkeley

B.A. Computer Science; Anticipated graduation in 2021.

Current Coursework: Internet Architecture and Protocols, Computer Security

Other Coursework: Efficient Algorithms and Intractable Problems, Discrete Math and Probability Theory, Structure/Interpretation of Computer Programs, Operating Systems and Systems Programming

Working Experience

Telenav, Inc. - Software Engineer Intern (Summer 2019)

- Telenav Automotive SDK Map Test Application Script for Streaming Solution
 - Designed JSON schema to drive map events. Wrote script to automate API calls to modules in TASDK. Created scriptengine using C++ to parse events and handle camera functions. Used threading to support multiple map actions. Created GUI widget to handle loading files using Qt.

Telenav, Inc. - QA Intern (Summer 2018)

- Developed tool to initiate tile testing in the map data layer using C++
- Wrote python script to generate html reports on data layer tile statistics
- Used Leaflet API to support map visualization of the data layer tiles and the road edges of each tile
- Used Docker to test team's routing tools

Course Projects

Database Systems

- Wrote SQL queries and created tables in Postgres for Lahman baseball statistic databases
- Database Management System
 - Implemented B+ tree index management, join algorithms and query optimization, multi-granularity locking, and write-ahead logging for recovery and integrated into codebase in Java

Computer Architecture

- Performance Programming
 - Applied optimization techniques in C on image classification using CNN: loop unrolling, SIMD/vectorization for data level parallelism, OpenMP for thread level parallelism
- GoLang Concurrent Cached File Server
 - Implemented file server with file caching in which caches have limited size. Wrote basic filename sanitization. Used GoLang channels to make sure only one thread modifies the cache at a time.

Data Structures

- Bearmaps
 - Used Java to (1) rasterize a map for zooming in/out (2) parse OpenStreetMap and build corresponding graph data structure (3) implement A* search algorithm for turn-by-turn short path routing (4) implement autocomplete searching features using Tries data structure.

Principles and Techniques of Data Science

- NYC Taxi Rides
 - Created training and validation sets for model and used feature engineering and model fitting to construct model that can predict taxi ride durations; used L1 loss to determine quality of model
 - Used SQL to query for data from database and perform basic data cleaning
 - Used Pandas to create dataframes to store data information and features
 - Constructed pandas and seaborn bar plots, heatmaps, line plots, scatter plots etc.

Technical Skills

Tools: Eclipse, Atom, Github, BlueJ, iPython, IntelliJ, Xcode, Docker, Microsoft Word/Excel/Access

Languages: Java, Python, SQL, C/C++, HTML, JUnit, Golang, Javascript