Karen Mu

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Education

Boston University - Questrom School of Business   **Aug 2021 - January 2023**
Master of Science in Mathematical Finance and Financial Technology   *Boston, MA*

Rensselaer Polytechnic Institute   **Aug 2017 - May 2021**
Bachelor of Science in Cognitive Science, Minor in Mathematics & Psychology   *Troy, NY*

Technical Experience

Full Stack Software Engineer II — Retail   **Jan 2023 - Jan 2024**
Opendoor   *San Francisco, CA*
- Ran a major migration on the property model from MongoDB to PostgreSQL, Elasticsearch, and GraphQL API Gateway - migrated the tours and offers endpoints, workers, and internal lookups to use the API, which enabled Opendoor's buyer market to expand from 22 to 50 markets
- Co-lead the development and shipped a customer-facing product (XState, React, Typescript) that enables users to successfully remotely unlock and self-tour homes via their phone in under 5 minutes
- Orchestrated product launch in a cross-functional team effort across engineering, product, operations, design, and decision science - product replaced a legacy flow and reduced user friction, for which I received employee of the month (Dec 2023) due to its success

Software Engineer Intern — Pricing MLOps   **May 2022 - Aug 2022**
Opendoor   *San Francisco, CA*
- Shipped a product that replaced a day long process with tedious communication between Operations and Engineers with a simple feature (Ruby, Ruby on Rails) integrated into the existing Pricing workflow
- Converted a Databricks notebook into a scheduled DAG in Apache Airflow - reduced runtime and turned a weekly 6+ hour long manual operation into a fully automated process

Quantitative Software Engineer Intern   **May 2021 - Aug 2021**
Ellington Management Group   *Old Greenwich, CT*
- Developed and tested across all parts of the tech stack - performed backend to SQL integration and database optimization, built various web pages, and implemented a password manager (C#, REST API, JavaScript) for an internal web application used by traders and analysts
- Designed and developed a CDS pricer (C#) that replaced an Excel-based calculator and reduced number of input parameters by 55%

DevOps Software Engineering Co-op — Web/Mobile Chapter   **July 2019 - Dec 2019**
FM Global   *Johnston, RI*
- Conducting implementation of API (SpecFlow, C#) and UI unit tests (Jasmine, TypeScript) in Gherkin formatting, UI browser tests (Selenium, C#), UI tasks using Angular (HTML, SCSS, Bootstrap), API integration, bug fixes, and exploratory testing on internal web-based application
- Reduced build times from 2 hours to 40 minutes by parallelizing CI/CD and PR build pipelines which improved sprint burndown by 25%

Skills

Coding Languages: Python, Ruby, TypeScript, C++, C#, C, HTML, CSS, SQL, JavaScript, R, Julia

Technologies: Linux, GitHub, Git, GitHub Actions, Amplitude, Snowflake, MongoDB, Concourse CI, Sentry, Datadog, Elasticsearch, AWS Athena, GraphQL, Figma, PyTorch, gRPC, Docker, Kubernetes

Frameworks & **Libraries**: React, React Native, Ruby on Rails, XState, Jest, Cypress, Apache Spark