

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

- GPA: Cum Laude (3.74/4.00)
- Relevant Coursework: Economics of FinTech, Computational Methods of Mathematical Finance, Advanced Programming for Finance: Data Structures and Algorithms, Advanced Machine Learning Applications for Finance

Rensselaer Polytechnic Institute

Aug 2017 - May 2021

Bachelor of Science in Cognitive Science, Minor in Mathematics & Psychology

Troy, NY

- Cum Laude (GPA: 3.65/4.00)
- Relevant Coursework: Information Retrieval (Thesis), Linear Algebra, Intro. to Number Theory, Multivariable Calculus, Rensselaer Center for Open Source, Data Structures, Intro. to Algorithms, Intro. to Artificial Intelligence, Machine Learning from Data

Technical Experience

Full Stack Software Engineer — Retail

Jan 2023 - Jan 2024

Opendoor

San Francisco, CA

- Migrated the Opendoor (an online iBuyer real estate company) tours and offers processes from a MongoDB backed architecture to one powered by Amazon Athena and Elasticsearch - removed the dependency on a 300GB database and optimized user lookups
- Co-lead the development and shipped Web Unlocks (opendoor.com/self-tour) as an Individual Contributor (IC), a customer-facing product that enables users to successfully remotely unlock and self-tour homes via their phone in under 5 minutes
- Orchestrated Web Unlocks launch in a cross-functional team effort across engineering, product, operations, design, and decision science - product increased tour to offer conversion by 20% 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%

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

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