

Miguel Chacon

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EDUCATION

Massachusetts Institute of Technology (MIT)

Class of 2025
Cambridge, MA

- Candidate for Bachelor of Science
 - Major: Software Development & Computer Engineering
 - Coursework includes: Software Performance Engineering, Natural Language Processing, Distributed Systems
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WORK EXPERIENCE

DoorDash

May 2024-August 2024

Software Engineering Intern

- Developed Kafka streaming pipelines to capture and process store badge promotion events, allowing real-time debugging of campaign ranking and selection for DoorDash's promotion platform.
- Implemented an end-to-end data flow from Feed Service to Snowflake, leveraging Kafka and Flink for real-time stream processing, and created Snowflake tables to store campaign and badge ranking data.
- Designed and optimized interactive dashboards using Sigma to visualize store badge data, significantly improving the ability to diagnose and resolve client-facing badge display issues.
- Collaborated with cross-functional teams to integrate event-driven systems across the Feed and Promotion services, deploying solutions that ensured accurate and efficient processing of store badge campaigns for up to 50% of DD users

T. Rowe Price (TRP)

June 2023-August 2023

Software Engineering Intern

- Designed and implemented a full-stack engineering project that allows the admin of TRP to communicate more effectively to every employee at the company.
- Designed a database schema to hold communications data using PostgreSQL and Liquibase.
- Implemented REST API endpoints to fetch, create, edit, and delete data from the database using the express framework in Typescript.
- Using React, I added a carousel to show the communications data along with a management pop-up that lets admin create and delete announcements.

MIT Kavli Institute for Astrophysics and Space Research

September 2022- August 2023

Machine Learning Research Assistant

- The goal of the project was to classify light curves (measurement of photon/sec) of supernovae (exploding stars) in real time.
- Thus, I first created and trained a variational autoencoder that reduces the data needed to classify the light curve and then I trained a random forest classifier that takes in the encoded version of the data as features and classifies that.
- With the validation dataset, I managed to get a 74% accuracy rate and reduced the dimension of the data from a 269x4 matrix to a 30x1 matrix.

Jane Street Capital

June 2022 - August 2022

Software Engineering Fellow

- Learned OCaml by creating Snake and then extended it significantly by adding a leaderboard, home screen, multiplayer version and then made it into a client-server distributed system.
 - Created a trading bot that partook in an electronic trading challenge (ETC) where bonds, ETFs, and American Depositary Receipts (ADRs) were traded. Strategies I implemented were hedging and fading based on fair values that my bot estimated, and won 2nd place in the competition between the other fellows.
 - Extended the Quickcheck library, which allows one to create quick unit-tests. The library has generators, which return random data to write tests; shrinkers, which when a test fails, finds a smaller counterexample; and observers, which are generators but for higher-order functions. I implemented all three for functional queues and dequeues, lazy strings, and error messages.
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Known Programming Languages: Proficient in Python, C and Go; Fluent in Java, Kotlin, OCaml, Javascript, Typescript