



Experience

Google - Software Engineer L4 09/2021 – Present

Using Python for data analysis and Java for development. Working on the Google Play team.
Last cycle review: outstanding performance (top 20%).

- Led a small team of 2 interns, providing training on the team's internal tools, conducting code reviews, and holding regular project progress syncs and developmental conversations.
- Implemented a system to log developer account changes, handling 5,000 queries per second. Developed a data export pipeline, utilizing a cronjob and the FlumeJava library, to extract this data daily from a Spanner table in storage.
- Led projects to improve user safety by requiring developers to verify contact information at signup.
- Using SQL and Python, analyzed datasets with millions of string data points to explore the feasibility of different solutions.
- Coordinated cross-functional and cross-team efforts with PMs and engineers to specify project requirements.
- Wrote unit and integration tests for all submitted code.
- Conducted technical design review meetings, coordinated quality assurance testing, conducted build reviews and live demo meetings to gain project approvals, monitored and incrementally rolled out features.
- Interviewed 28 candidates for Software Engineering positions.

Google - Software Engineering Intern 05/2020 – 11/2020

Google Chrome for iOS team - Implemented a redesign of the Tab Switcher, the main interface for managing and navigating tabs in Chrome for iPhone.

- Designed the technical architecture and implemented the feature using Objective-C and C++.
- Contributions are open source and can be found here: chromium-review.googlesource.com/q/owner:mouraroberto.

Bank and Trading Group Pactual - Volatility Trading Intern 06/2019 – 09/2019

Developed infrastructure for the volatility trading desk and implemented a trading algorithm.
Used Python and C++.

- Implemented pricing and risk models for complex derivatives and structured financial products using Monte Carlo simulations and the Black-Scholes model. Used the Cholesky decomposition to generate random variables from an asset correlation matrix.
- Implemented a gradient descent algorithm to estimate the parameters that best fit a volatility surface model.
- Performed time series analysis to back-test and implement an algorithmic trading strategy.

Elementary Education Center SQN 316 - Volunteer Mathematics Teacher 06/2014 – 11/2014

Taught mathematics to 7th grade (13-year-old) students at a public middle school.

Education

London School of Economics - United Kingdom 06/2023 – 07/2023
Computational Methods in Financial Mathematics (A+)

Sorbonne Université - France 09/2020 – 08/2021
MSc in Computer Science - Machine Learning and Computer Vision

École Polytechnique - France 09/2017 – 08/2020
X2017 *Ingénieur polytechnicien*
MSc in Applied Mathematics, BSc in Computer Engineering

Military Institute of Engineering (IME) - Brazil 01/2016 – 12/2017
BSc in Computer Engineering (*Transferred to Polytechnique*)

Skills and Awards

Programming Python [NumPy, Pandas, scikit-learn, TensorFlow, PyTorch], C/C++, Java, Dart, SQL, VBA, JavaScript, PHP, Lua, Spanner, Firebase, Git, Mercurial/Fig.

Languages Fluent in English, French, and Portuguese.

Awards Prize-Winner at ACM ICPC 2016, 2x Gold medal winner at the Brazilian National Mathematics Competition, Silver and Bronze medal winner at the Brazilian National Physics Olympiad, Honorable Mention at the Ibero-American Mathematics Competition.