

Rodney S. Lafuente Mercado

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EDUCATION

Harvard University (GPA: 3.6/4.0, ACT: 33/36)

Cambridge, MA

A.B. with Honors in Applied Mathematics-Computer Science

August 2018 – December 2022

Highlighted coursework: Mathematical Modeling • Theoretical Linear Algebra and Applications • Complex and Fourier Analysis • Probability and Random Variables • Machine Learning • Artificial Intelligence • Functional Programming • Systems Programming and Machine Organization • Operating Systems

WORK EXPERIENCE

Harvard Medical School

Cambridge, MA

Machine Learning Researcher

January 2022 – May 2022

- Worked in Prof. Pamela Silver's lab in the Systems Biology department at Harvard Medical School's Longwood Campus.
- Developed and maintained a pipeline for analysis of puncta (dense spots) in images of SARS-CoV-2 nucleocapsids.
- Implemented Image Segmentation algorithms and Ensemble Models in Jupyter Notebook, on HMS's O2 Computing Cluster.
 - Work resulted in software that quantified puncta with the same accuracy as existing commercial software (Ilastik)
 - Drawbacks existing in commercial software were addressed by employing novel mathematical filtering algorithms.
- Led instructive meetings in the basics of software development and machine learning to non-technical staff.

Amazon.com, Inc.

Seattle, WA

Software Engineering Intern

June 2021 – August 2021

- Learned and applied principles of cloud computing and servers to projects within the AWS Cryptography Organization, in a team of eight people. Worked primarily with Java in a CI/CD environment, on a product hosted entirely on other AWS services.
- Designed and implemented changes to the AWS Signer API, Amazon's code signing (cryptographic verification of code) service.
 - These changes, which were designed to be pushed to production environments, enabled customers to express signing configurations of higher granularity (e.g., lists of users authorized to access cryptographic certificates)
- Rapidly learned how to use internal tools for development as well as coding libraries as necessary for projects. Worked with AWS services such as API Gateway, DynamoDB, Lambda, X-Ray, and CloudWatch. Self-taught sufficiency in the AWS CDK.

StrattyX (YCombinator Summer '19)

San Francisco, CA

Quantitative Analyst

September 2019 – February 2020

- Second employee at Y-Combinator backed financial technology company developing algorithmic trading tools for retail investors. Created educational materials for customers, surrounding financial technology products in algorithmic trading.
- Served as representative to venture capital firm representatives at TechCrunch Disrupt and CES. Personally flew to four cities (Las Vegas, Atlanta, San Francisco, Chicago) in the U.S. in order to educate and attract potential investors on our product.
- Provided valuable feedback in product iterations, both in technical capacity and in evaluating product-market fit.

TEACHING

Harvard School of Engineering and Applied Sciences

Cambridge, MA

Course Assistant

January 2022 – May 2022

- Served as one of nine Course Assistants for CS 20: Discrete Mathematics for Computer Science, consisting of over 200 students.
- Led Office Hours every week and lead Section meetings where a class of ~20 students was lead through elementary mathematical concepts meant for preparing students for posterior work in theoretical computer science and mathematics.
- Graded assignments and aided students during lecture. Responded to conceptual questions on the educational platform Ed.

Harvard Summer School

Cambridge, MA

Proctor, Tutor

June 2019 – August 2019

- Directly responsible for 14 high school students' safety and well-being. Lived in same building as students and provided 24/7 health-related support. Coordinated and supervised residential and program-wide events for cohorts of 30-40 students.
- Tutored students in college-level Computer Science, Mathematics, and Biology while not providing support as a proctor.

Other Activities: Sigma Alpha Epsilon Fraternity (Alumni Chair), Harvard Latino Men's Collective (Social Chair). Harvard Fuerza Latina (Vice President).

SKILLS, SOFTWARE, INTERESTS

Misc.: Native Spanish Speaker (Bolivian Dual-Citizen), Data Science and Visualization, Mathematical Modeling

Languages: Python, JavaScript/TypeScript, Java, x86/C/C++ (advanced), Golang, OCaml (intermediate).

Frameworks and Libraries: React, React Native, Scikit-Learn, SciPy, and Numpy (advanced), PyTorch (intermediate).

Interests: Weightlifting, distance running, economic history of U.S.-China relations, current political affairs of Latin America.