MARTÍN REYES HOLGUÍN

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EDUCATION

HARVARD UNIVERSITY Cambridge, MA
S.M, Computational Science & Engineering May 2023
Relevant Coursework: Systems development for computational science, advanced scientific computing, tiny machine learning.

HARVARD UNIVERSITY Cambridge, MA
A.B, Applied Mathematics May 2023
Relevant Coursework: Complex, Fourier, and real analysis, dynamical systems, natural language processing, data structures and algorithms, theory of computation, probability and inference, programming languages, machine learning, stochastic processes.

WORK EXPERIENCE

INCOMING SUMMER QUANTITATIVE ANALYST INTERN @ CITI New York, NY | Jun. 2022 – Aug. 2022
Designs and implements mathematical models for primes and delta one services trading.

RESEARCH ASSISTANT @ HARVARD GROWTH LAB Cambridge, MA | Feb. 2021 – Present
Researches and implements recommender systems collaborative filtering and matrix factorization models to propel developing countries' economies using data from the Atlas of Economic Complexity. Co-authors a research paper with Dr. Andrés Gómez.

DATA SCIENCE INTERN @ VIGILAMOS TIERRA MÉXICO Mexico City, Mexico | Jan. 2021 – Jan. 2021
Coded a function to produce PDF reports containing spatial and temporal visualizations of crime and computer-generated text to summarize crime in Mexico. Evaluated self-exciting point processes model for crime prediction using Mexico's crime data.

DIRECTOR OF TECHNOLOGY @ COLLEGE SCHOLAR Remote | Nov. 2019 – Jun. 2022
Developed the company website and student portal by creating a WordPress theme in PHP. Engineered receipts and payments system, automatic newsletter, and student onboarding portal using Google app scripts.

CONTENT CREATION SPECIALIST @ ENGAGING EDUCATION Remote | Nov. 2019 – Dec. 2020
Programmed virtual chatbots in YAML that teach interactive math lessons and explain math problems for the Lana app.

UNDERGRADUATE FELLOW @ DEREK BOK CENTER Cambridge, MA | Oct. 2019 – Jun. 2020
Created webapps using Cinema 4D, Unity, D3.js for classes at Harvard to make learning more interactive.

LEADERSHIP AND TEACHING

MATHEMATICS AND STATISTICS TEACHING ASSISTANT @ HARVARD Cambridge, MA | Jun. 2021 – Present
Grades homework, leads section, and hosts office hours for fall and summer 2021 versions of MATH 21A: Multivariable Calculus and fall 2022 version of STAT 110: Introduction to Probability and Statistics.

COMPUTER SCIENCE TEACHING FELLOW @ HARVARD Cambridge, MA | Dec. 2021 – May 2022
Develops curriculum for the new class, COMPSCI 96: Machine Learning for Social Good. Mentors a team to model the amount of respirable crystalline silica from spectral data for the CDC NIOSH. Holds office hours and workshops, and grades work.

CHOREOGRAPHER @ HARVARD CANDELA LATIN DANCE TROUPE Cambridge, MA | Sep. 2020 – Jun. 2022
Designs and teaches choreographies. Programs lights and sound for the troupe's shows. Organizes intercollegiate performances.

CO-PRESIDENT @ HARVARD ORGANIZATION FOR LATIN AMERICA Cambridge, MA | Sep. 2020 – Jun. 2022
Organized social, cultural, service, and academic events. Prepared sexual health and workplace rights workshops to Latinos in Boston. Held faculty dinners. Hosted the CEOs of Rappi, LaHaus, and NuBank as guest speakers.

PROJECTS

POMBO EDUCATION: Developed an app that diagnoses educational inefficacies in the classroom. Designed the UI/UX for the application, a predictive model trained on data from 10,000 schools in Colombia, the firebase infrastructure, etc.

QUESTIONS TO ATIS SQL QUERIES: Created a natural language question to SQL queries translation system using naïve Bayes, rule-based, and seq2seq encoder-decoder supervised learning models in NLP.

MINI ML METACIRCULAR INTERPRETER: Implemented two interpreters for a subset of the OCaml language using a substitution model and a dynamic scoped environment model.

TYPE INFERENCE: Created a constraint-based type inference system for an extended lambda calculus with recursive types.

DISCRETE MATH EXPLORABLE APPS: Created RShiny webapps that calculated operations of subgroups, and Cayley graphs of different important groups. Created visualizations of Euclid's GCD, Fleury's, Prim's, and Kruskal's algorithms.

CHUSPA APP: Developed iOS app that scans grocery products and displays eco-footprint from life cycle assessment models.

SKILLS

Programming languages: Python, R, SQL, OCaml, LaTeX, JavaScript, HTML/CSS, Swift, Java, C, MATLAB
Libraries: Numpy, Pandas, Matplotlib, RShiny, Scikit Learn, PyTorch, TorchText, SciPy, Beautiful Soup, D3JS
Languages: Spanish, English, and French (Fluent); Chinese (Intermediate Proficiency)