Alejandra J. Perea Rojas

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EDUCATION

HARVARD UNIVERSITY   Cambridge, MA
A.B. Candidate in Computer Science with a Secondary in Physics.   May 2024
Relevant coursework: Multivariable Calculus, Intro to Probability, Discrete Mathematics, Applied Linear Algebra and Big Data, Mechanics, Electromagnetism, Abstraction and Design in Computation, Systems Programming and Machine Organization, Introduction to Algorithms, and Artificial Intelligence.

SKILLS

Programming: C++, Python, PHP, HTML/CSS, JavaScript, OCaml, Matlab and LaTeX.
Platform: Azure, Postman, GitHub, Docker and QGIS.
Web Development: Built and deployed alejandraprj.com using React.
Language: Spanish (native), Mandarin Chinese (intermediate) and Japanese (beginner).

RELEVANT EXPERIENCE

TEAMCORE PAWS   Cambridge, MA
Software Engineer   Jun 2022-Present
Implement a testing interface to the PAWS SMART API with improved error handling and data validation. Build data through QGIS, test interface with JSON scripts in Postman, process tests in Azure cloud computing servers, and develop an automated data processing framework in Python.

WILDLIFE CONSERVATION SOCIETY   Remote / NYC
Drones and Sensors Intern   May-Aug 2022
Built an online library through web-query construction in SQL and web scraping in Python. Wrote a white-paper about the current state of camera trap distance sampling and automated tools.

RELEVANT PROJECTS

COMPSCI61 - COMMAND SHELL   Nov 2021
Designed and implemented a subset of bash shell's commands including simple and background commands, command lists, conditionals, pipelines, the cd command, the waitpid command for zombie processes, redirections, and the interrupt signal.

COMPSCI61 - WEENSYOS   Oct 2021
Implemented kernel for WeensyOS, a miniature x86-64 based operating system. Developed kernel isolation, process isolation, virtual page allocation, forking, shared memory, overlapping virtual memory address spaces, and an exiting function.

COMPSCI51 - MINIML   May 2022
Used the substitution model and dynamic scoped environment model to build an Ocaml interpreter that is a subset of the OCaml language and is Turing-complete. Implemented unary and binary types and operators, higher-order functions, recursive functions, and conditionals.

LEADERSHIP & ACTIVITIES

HARVARD SEAS   Cambridge, MA
Systems Programming Course Assistant   Sep-Dec 2022
Facilitate college-level course of about 200 students on Hold office hours and review sections twice weekly, covering data memory and representation, assembly, kernel, caching, shell, and process synchronization using C++.

Women in Computer Science   Cambridge, MA
DIB Advocacy Director   Aug-Dec 2022
Overseeing the Women in Computer Science Advocacy Team's projects on inclusion at Harvard for engineering.