Piero F. Orderique

706.987.3958 porderiq@mit.edu
www.pforderique.com /pforderique

Education

Massachusetts Institute of Technology

SB Computer Science | *Expected: May 2024*

GPA: 4.8/5.0

Society of Hispanic Professional Engineers, MIT Office of Sustainability, MAES VP of Social Affairs, Sigma Nu Tech Chair, Club Peru President, AI@MIT

Relevant Coursework:

Design & Analysis Algorithms, Software Construction, Machine Learning, Embedded Systems, Physics EM, LinAlg & Optimization, Web Lab, Technical Comm.

Columbus High School

Top 1%; Rank: 3 | *May 2020*

President: National Math Honor Society & Spanish Club
Vice Pres: Student Council | Captain: Swim Team

GPA: 4.723/4.0 | ACT: 35 | 16 AP Courses
400+ hours of community service and tutoring

Projects (see more at www.pforderique.com/projects)

AI Smart Rockets > Genetic Simulation

03/2022 Developed a genetic algorithm with customizable parameters to create path finding rockets around user-made obstacles

Instagram & Twitter Bots > Web Scrapers

12/2021 Designed an Instagram and Twitter API using Python web scraping for an automated email notification service

AI Tic Tac Toe > Game

07/2021 Implemented the minimax algorithm to optimally play the game of tic-tac-toe against an adversarial human player (JS)

AirChat > Web-App

06/2021 Deployed a chatting application on Heroku (switched from AWS EB) using a Flask backend, socket.io (JS) and PostgreSQL

COVID-19 ML Cases Predictor > Data Visuals

07/2020 Generated several predictive plots based on state and county cases using scikit-learn ML models

Paint Canvas > Android App

06/2020 Published a drawing app (Java) utilizing object-oriented design with a minimalistic UI

Work Experience

STEP Intern — *05/2022 - 08/2022*

Google

- Performed a full stack refactoring (Java, TS) to support a more efficient protocol buffer and message caching system
- Created design docs and educational tech presentations
- Wrote autocomplete components (Angular), reducing the number of invalid options shown to user from ~98% to 0%
- Organized a bug-bash session; fixed 20+ bugs
- Increased several component's code coverage by over 15%
- Audited internal tools to meet accessibility standards

Machine Learning Engineer — *01/2022*

Microsoft

- Researched several ML models to improve Intune services
- Proposed a detailed architectural design for team review
- Pre-processed and cleaned client data for training
- Trained and tuned a classification model with 97% accuracy on Azure ML Studio using standard performance metrics
- Deployed model as a web service (API) for internal use

Robotics Software Intern — *06/2021 - 08/2021*

NVIDIA

- Optimized standard ROS2 packages to run faster on NVIDIA hardware using internal APIs rather than OpenCV (C++)
- Reinforced project stability by writing multiple unit and integration tests and benchmarking scripts (Python)
- Diagnosed and solved synchronization issues using time policy algorithms hidden in the implementation file (C++)
- Performed several code reviews and project doc. updates

Software Engineer — *09/2020 - 05/2021*

MIT Office of Sustainability

- Research helped identify a potential $600M+ worth of damage to university property from flooding simulations
- Designed a Python package for reading and visualizing 300+ specialized data files using SciPy, matplotlib, and OOD
- Reduced data storage by 99.99% (from 1.1TB to ~1MB)

Skills/Certificates

Programming

TypeScript, JavaScript, C++, Python, Java, SQL, Kusto, Julia, R, HTML/CSS

Software & Tools

Angular, Azure ML, Confluence, Docker, Excel, Flask, Git, GitHub/GitLab, Google Auth, React, jQuery, MongoDB, NumPy, OpenCV, React, ROS2, Selenium, Socket IO, Ubuntu

Certificates & Learning

LinkedIn: PyTorch Essentials, OpenCV, AI Foundations
IBM/Microsoft: Machine Learning with Python, Intro to C++

Distinctions

Gates Scholar, President's Volunteer Service Award,
HSF Scholar, Stamps Scholar, Foundation Fellow