

Mohamed Hamouda

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EDUCATION

Harvey Mudd College

Bachelor of Arts in Computer Science

Claremont, CA

Aug. 2020 – May 2024

- **Coursework:** Big Data, Algorithms, Web Development, Machine Learning, Computer Systems, Data Structures, Probability, Computational Physics/Engineering, Innovation Management

Claremont McKenna College

Bachelor of Arts in Physics

Claremont, CA

Aug. 2020 – May 2024

- **Honors:** Interdisciplinary Science Scholar, RLCIE Fellow

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (MySQL and Postgres), JavaScript, TypeScript, PHP, HTML/CSS, R

Frameworks: React/React Native, Node.js, NEXT.js, Flask, Expo

Libraries: pandas, NumPy, Matplotlib, TensorFlow, PyTorch

Developer Tools: Git/GitHub, Docker, Google Cloud Platform, AWS, Supabase, Linux, Vim, Figma

EXPERIENCE

Software Engineer

ConcentricLife (HMC Computer Science Clinic)

Aug. 2023 – May 2024

NYC - Remote, NY

- Provided physical therapy dancing for an expected 2 million children by developing a mobile app
- Contributed over 10,000 lines of code to build the frontend using react native and the backend using Supabase
- Designed and built a scalable database schema on Supabase using PostgreSQL

Web Developer | [P-reset project](#)

Pomona Artificial Intelligence (P-ai)

Sep. 2023 – Dec. 2023

Claremont, CA

- Developed an AI-powered self-care web application for 1500+ college students using Flask, NEXT.js, React, and Tailwind
- Automated scheduling for users by integrating Google Calendar's API

Software Engineer Intern

Rebilly

Feb. 2023 – June 2023

Austin - Remote, TX

- Worked on a machine learning retry algorithm to improve the success rate of failed payment transactions
- Conducted optimized SQL queries on a database of 5 million+ transactions to determine top-used BINs
- Used binomial proportion confidence intervals in Python to statistically determine optimal transaction retry times

Physics Tutor and Grader

W.M Keck Science Department

Sep. 2021 – May 2022

Claremont, CA

- Evaluated 600+ student assignments for general and modern physics
- Enhanced 50+ students' understanding and performance through targeted, constructive feedback

Robotic Systems Developer

Tech Planet

May 2019 – Nov 2019

Cairo, Egypt

- Constructed a fully functional obstacle-avoiding line-follower robot from scratch using Arduino
- Designed and built a PCB using Eagle after completing Electronics, Robotics, and Circuit Design Courses

PROJECTS

[Greptile Mobile](#) | *Greptile API, React Native, Expo, GitHub OAuth*

July 2024 – Aug. 2024

- Built a mobile app for querying and interacting with GitHub repositories, integrating secure GitHub OAuth authentication
- Implemented AI-powered chat through Greptile's API to assist users in exploring and querying codebases on the go

[P-Laying-Soccer](#) | *R, Python, Machine Learning Algorithms*

Sep. 2022 – Dec. 2022

- Created useful data visualization animations of soccer-match scenarios
- Conducted ANOVA tests to find significant metrics impacting match outcomes
- Built ML models (KNN, SVM, Random Forest) achieving 80% accuracy for match predictions