Marc Bernardino

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Education

Stanford University Stanford, CA

Bachelor of Science in Computer Science, Minor in Mathematics *June 2026 (Expected)*

Relevant Coursework: Introduction to Computer Science, Data Structures and Algorithms, Computer Science Research, Standard C++ Programming, Scientific Python

Expected Coursework: Multivariable Calculus and Linear Algebra, Computer Organization and Systems Design

Technical Skills

Languages: JavaScript, TypeScript, HTML/CSS, Java, C++, Python
Technologies: Node.js, React, React Native, Next.js, Express, TailwindCSS, Flask, TensorFlow, PyTorch, OpenCV
Developer Tools: Jira, Git, VS Code, Amazon Web Services, Google Cloud Platform, DigitalOcean
Databases: Firebase, MongoDB, Amazon DynamoDB

Experience

Software Engineering Intern July 2023 – September 2023

Notebook Labs (YC S22) *New York, NY*

- Co-developed **Zephyr**, a decentralized, peer-to-peer cryptocurrency exchange application built using zk-SNARKs.
- Implemented a backend server in Node.js, JavaScript, Express.js, and Alchemy SDK with **15+ functions and 10+ API endpoints** for verifying captchas, calling smart contracts, and interacting with Amazon DynamoDB.
- Designed and applied over **40+ responsive frontend components** for interfacing with the Zephyr web application and the Zephyr landing page using React with Next.js, TypeScript, and TailwindCSS.
- Wrote **20+ backend functions** that connect the clientside to Ethereum networks, wallets, and servers (Email relayer, Zero-knowledge prover, Sybil-resistant server) using Node.js, Wagmi, ethers.js, and RESTful APIs.

Scientific Computing Intern, TARGET Program June 2022 – August 2022

Fermi National Accelerator Laboratory (Fermilab) *Batavia, IL*

- Constructed a hybrid camera and Neural Network overlay with Xilinx Vivado and HDL, allowing for simultaneous and low-latency Neural Network inferences with a webcam on Pynq-Z2 hardware.
- Produced a Computer Vision demo for FPGA architecture with Python, hls4ml, and OpenCV that can classify Pokémon with **83.5% detection accuracy.**
- Assisted in training and converting optimized Convolutional Neural Networks for FPGAs with hls4ml, resulting in models with **95% prediction accuracy.**

Volunteer Experience

Project Intern October 2023 – Present

PODIL via Stanford Data and Mapping for Society *Stanford, CA*

- Working on full-stack development, data analysis, and machine learning projects for a health startup backed by the Qatar Government to create an app for overall well-being in Qatar.

Projects

Serenade | *TypeScript, React, Next.js, Python, Flask*

- Developed a full-stack web application for an AI-powered personalized therapeutic listening experience.
- Created **10+ API routes** to connect client to external APIs, Replicate hosting, and LLMs (MusicGen, GPT-4).
- Designed front-end components for improved UI/UX using TailwindCSS, DaisyUI, and CSS animations.

DiscoDB | *Python, Flask, JavaScript, React, Recharts*

- Collaborated with UIUC students at HackIllinois on a NoSQL database storing data via Discord.
- Co-created **20+ functions** using Flask that handles CRUD, Queries, etc., between Discord and the database.
- Assembled a dashboard that charts **3 data points** from DiscoDB logs using JavaScript, React, and Recharts.

NotifAI | *JavaScript, React Native, Expo, Python, Flask*

- Co-designed an app that utilizes Computer Vision to scan text and give a summarization for Cohere's Hackathon.
- Built a React Native app with **6+ components** integrated with Google Vision AI for camera text extraction.
- Assisted in integrating a Flask backend that enables word embeddings via Cohere AI's Embedding Model API.