Pedro Zamora II

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Education

University of Michigan — Ann Arbor

*College of Engineering | May 2022 | GPA: 3.31 | **BSE in Computer Science** | **Minor in Business***

Notable Coursework:

- Web Systems
- Database Management Systems
- Applied Parallel Computing w/ GPUs
- Computer Networks
- Data Structures & Algorithms
- Electronics for Atmospheric & Space Measurements

Experience

Software Engineer Intern

USHR Inc. *May 2020 — Oct. 2020*

- Utilized Python to maintain road-mapping software responsible for providing data on over 500,000 miles of road throughout North America used by the autonomous vehicle systems of Nissan, Cadillac, and Rivian.
- Led initiative to refactor publishing software in anticipation for General Motors' 2021 contract requirements, including implementation of newly requested road objects, and a 19% improvement of AWS EC2 usage.

Software Engineer Intern

The University of Michigan — LSA Technology Services *Mar. 2019 — Feb. 2020*

- Developed interface between University faculty support website and IT ticketing system, allowing for a faster and more efficient response from faculty support staff regarding technology issues.
- Refined inventory system software and proposed its automation using Python scripts resulting in recognition for high productivity and consistent positive feedback.

Projects

Instagram Clone Web Application

- Created a full stack Instagram clone with dynamically generated client-side pages and a custom REST API utilizing React, Flask, and a SQLite database hosted on AWS.
- Includes various functionalities such as profile creation, secure login services, a personalized infinite scroll feed, and real-time operation of data such as likes, comments, posts, and follows.

Weather Balloon Payload

- Designed, built, tested, and deployed atmospheric instrumentation to analyze wind shear forces experienced by commercial airliners using a high-altitude weather balloon.
- Led two person sub-team responsible for creating a custom Arduino framework in C++ for on-board sensors.
- Parsed and represented collected sensor data using C++, MATLAB, and Google Maps API resulting in "Best Overall Design" class award, voted by other students.

Video Streaming Proxy

- Developed a video streaming proxy service with a team of 3 students utilizing C++ libraries for multithreading, sockets, and DNS queries.
- Incorporated features such as adaptive bitrate selection, throughput estimation, and multi-server load balancing, to improve latency and buffering time of multiple video streams by over 40%.

Achievements / Extracurricular

- Member of the Michigan Rock Climbing Club, climbed at national parks including Yosemite and Joshua Tree.
- Founded and mentor high-school Cyber Security team. State-Ranked 34th ('16), 5th ('17), and 2nd ('18).
- Habitat for Humanity, non-profit building affordable housing. Volunteered 2016-2019.

Skills

Languages: C++ // C // HTML5 & CSS // JavaScript // Python // SQL
Frameworks: Angular // Bootstrap // Electron // Flask // MongoDB // PostgreSQL // React
Tools: AWS // CUDA // Git // Jira // Linux // MacOS // MATLAB // PostGIS // QGIS // Windows