Elijah Cantu

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EDUCATION

University of Michigan College of Engineering — Ann Arbor, MI
- **BSE:** Computer Science — Expected: May 2025
- **Minor:** User Experience Design
- **Awards:** Full-ride scholarship, Detroit Promise and Wolverine Pathways full-tuition scholarships.
- **Courses:** Web Systems, Database Management Systems, Building Data-Driven Web Applications, User Interface Development, (Web Design, Development, and Accessibility), Human-Centered Software Design and Development, Software Engineering, Data Structures and Algorithms

CEA CAPA Education Abroad — Prague, Czech Republic
- **Courses:** Differential Equations and The Golden City of Prague — May 2023 - July 2023

SKILLS

Programming, Scripting, Markup Languages: C++, C, Python, SQL, HTML, CSS, JavaScript
Web Frameworks and Tools: AWS, Cloudflare, React, Node, npm, npx, webpack, NGINX, Flask, Django, jQuery, Cypress
Databases: SQLite, Oracle, MongoDB
Other: G++, GCC, GDB, Clang, LLDB, pdb, pytest, eslint, venv, pip, Homebrew, Make

PROJECTS (For a complete list of 40+ projects, visit linkedin.com/in/elijahcantu/details/projects)

Wikipedia Search Engine
- Developed a scalable search engine for Wikipedia pages crawled from seed pages.
- Built an inverted index using a pipeline of MapReduce programs compatible with the Hadoop Streaming Interface.
- Created a REST API index server that returns search results based on TF-IDF and PageRank.
- Implemented a search server as the user interface implemented with server-side dynamic pages.
- Wrote a Flask view for search results using threads to make requests to the index servers.

MapReduce Server
- Developed a robust single machine, multi-process, multi-threaded server that executes user-submitted MapReduce jobs in Python and deployed it on a cluster of AWS EC2 instances.
- Integrated multithreading for executing user and manager submitted jobs and tasks, managed messages between users, managers, and workers via TCP ports, handled heartbeats of workers via UDP ports, and ensured fault tolerance by handling dead worker tasks.

EXPERIENCE

Adient Plymouth CTU Technical Center — Plymouth, MI
- **Honda Department:** Product Engineer Intern — August 2019 - March 2020
- **RECARO Department:** Business Analyst Intern — August 2018 - June 2019

Jewish Vocational Service — Detroit, MI
- Disabled Adult Support Worker Intern — October 2017 - June 2018

EXTRACURRICULAR

FIRST Robotics Competition Team 5577 — Detroit, Michigan
- Team Captain, Mechanical Lead, and Mechanical Engineer — Sept 2017 - June 2021