

Ethan C. Morgan

ethanmorgan.io • etcmo@umich.edu • linkedin.com/in/EthanMorganUMich

EDUCATION

University of Michigan, Ann Arbor, MI

Bachelor of Science in Computer Science - GPA: N/A COVID

Dec. 2022

- Coursework: Web Dev., Computer Networks, Computer Security, Computer Organization, User Interface Dev.

Michigan Technological University, Houghton, MI

Bachelor of Science in Computer Science - GPA: 3.86

Sept. 2018 - Dec. 2019

- Coursework: Data Structures and Algorithms, Discrete Structures, International Economics, Linear Algebra

PROJECT EXPERIENCE

Ask485 Search Engine - Python, Flask

May 2021

- Built a scalable search engine in Python utilizing PageRank and TF-IDF concepts
- Designed HTML search interface to display search query results from REST API Python backend running on Flask
- Utilized MapReduce to efficiently parse and index over 30 MB of Wikipedia pages
- Implemented a REST API to handle user search queries using Flask

MapReduce Server - Python

Apr. 2021

- Developed a Python MapReduce server which executes user-submitted MapReduce jobs with multi-server capability
- Implemented multi-server functionality using multi-threaded TCP and UDP sockets for master-worker communication
- Added fault tolerance functionality to create program resiliency in case a worker dies

Desktop Instagram Clone - Python, React JS, JavaScript, SQLite, Flask

Feb. - Mar. 2021

- Designed and wrote REST API backend using Python and Flask to pull data from SQLite Database for page content
- Protected stored passwords utilizing K-anonymity and SALT encryption
- Enhanced user experience by creating infinity scrolling, likes, browser history, and commenting features in React JS

Neural Network Optical Character Recognition (OCR) - Java

Jun. 2018

- Created a neural network Java application that trained itself to identify handwritten numeric numbers
- Implemented ability to train itself on pictures of handwritten numbers or in a real time drawing interface

Video Streaming CDN - C++

- Created a video streaming

EXPERIENCE

Amazon, Seattle WA

Software Development Engineer Intern

May. - Aug. 2022

University of Michigan, Ann Arbor MI

Instructional Technology Web Developer working in CAEN

Mar. - Apr. 2022

- Designed and developed essential UI features in REACT for a UMich website that enabled students to view course cameras and whiteboards live

Ford Motor Company, Dearborn MI

Global Data, Analytics, and Insights (GDI&A) Summer Intern working in The Democratization Team

Jun. - Aug. 2020

- Decreased server wait times by 18% by designing and implementing a Schedule Optimizer to recommend the best times for new workflows
- Decreased overall server workflow errors by 11% by creating a program to notify developers of real-time server crashes on their workflows
- Increased overall server utilization by 9% by implementing workflow to notify server managers and developers when wait times were too long
- Collaborated with Alteryx and Server team on scalability of the Schedule Optimizer, for code efficiency across servers

Software Engineering Intern contracted by Ciber Global

May - Jul. 2019

- Automated 100+ hours of human resources by automating the patching and updating of over 700+ plant floor computers by writing PowerShell scripts
- Created detailed inventory reports for 9 Manufacturing Plants by implementing Powershell scripts to collect computer configurations

- Coordinated with Plant Management for best times to update 24/7 production lines in 9 different plants

SKILLS AND INTERESTS

Programming: Java (advanced), C++ (adv.), Python (adv.), C (intermediate), JS/REACT (int.), Swift (novice), SQL (nov.)

Platforms: Windows, Linux/Unix, OS X

Applications: Git, AWS, npm, Alteryx, Tableau

Interests: Soccer, Photography, Hiking, Chess