Pranav Chaudhary

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Education

University of Michigan, Ann Arbor **Ann Arbor, MI**
Bachelor of Science in Engineering **Graduating in December 2022**
Major: Computer Science **GPA: 3.60/4.00**
Clubs/Programs – TechLab at MCity, Materials Lab, Michigan Electric Racing, IEEE, Pi Tau Sigma, Bursley Multicultural Council

Experience

Google **May 2022 – August 2022**
Software Engineer Intern (Google Maps) **New York, NY**

- Wrote 2,500+ lines of code in C++, Flume (Google's MapReduce), and gMock to create a data extraction pipeline.
- Built a pipeline that extracted millions of duplicate establishment training data from billions of query-to-establishment click data.
- Successfully retrained the embeddings ML model using this training data, which improved its duplicate establishment detection rate.

ITHAKA (JSTOR) **May 2021 – August 2021**
Software Engineer Intern (Full Stack Role for FORUM web app) **Ann Arbor, MI**

- Single handedly coded a mapping interface in Vue.js to pair metadata with field types that improved user interaction by about 40% and reduced the development cycle of the MVP by 3 weeks. Wrote unit tests in Jest, and collaborated with the product designer.
- Interacted with users and watched several UI usability tests to create designs for development for at least 30 total hours after work.
- Created a rotate image feature that allowed users to rotate and publish images to the JSTOR web app, for about 10-20% of images.

TechLab at MCity **January 2021 – May 2021**
Software Engineer Intern (DeepMap Inc.) **Ann Arbor, MI**

- Optimized vehicle routing in python using Google OR tools to improve map navigation by providing color feedback for road changes.
- Created a python tool to parse JSON map output to automate initial analysis, which reduced the development cycle by 1.5 months.
- Coded an interactive HD map using the networkx library, to show the path of traversing between roads and total road changes.

TechLab at MCity **August 2020 – December 2020**
Software Engineer Intern (Innoviz Technologies) **Ann Arbor, MI**

- Implemented a RESTful python controller that uses LiDAR to detect pedestrians, that may save 10,000s of lives in proving safety.
- Successfully integrated LiDAR hardware with perception software and used the MCity infrastructure API to change traffic lights.
- Used MCity traffic light APIs to relay real time data to controller, which allowed us to meet 100% of our project's KPIs.

Michigan Electric Racing (Formula Electric FSAE Team) **August 2018 – November 2020**
Suspension Analysis Lead **Ann Arbor, MI**

- Analyzed 1000s of tires data points for 2020 racecar using MATLAB plotting. The best decision out of 18 choices was made.
- Lead the team that selected and mounted potentiometer sensors, to analyze data and improve 70% suspension designs.

Projects

Instagram Clone **October 2021 – November 2021**
Programmer **Ann Arbor, MI**

- Created a Python backend using Flask, that interacted with REST API endpoints. All data was stored in a SQLite3 database.
- Front-end was developed using a React.js framework, that involved components like the "like" button, and infinite scroll.

Search Engine **November 2021 – December 2021**
Programmer **Ann Arbor, MI**

- Evaluated the PageRank of each page using a python script and served inverted index and PageRank data on a Restful API using Flask for the back end. Built a UI to query the API. Successfully tested the pipeline on a pre-scraped library of 1000's of Wikipedia pages.
- Built a custom multi-threaded MapReduce framework with TCP/UDP sockets to distribute tasks to workers.

LearnBud Web App **June 2021 – August 2021**
Programmer **Ann Arbor, MI**

- Created a Flask web app, using a MySQL database and a React.js UI, that dynamically matched students with similar interests.
- Used AWS RDS database with a MySQL setup to store data, and transform a google forms doc into a web app.
- Developed a backend service in Python using REST APIs to group students with similar interests.

Skills and Awards

Languages –C++, C, MATLAB, Python, Java, MySQL, SQLite3, PyTorch
Web design – JavaScript, React.js, Vue.js, HTML, CSS, Google Analytics, Jest, Oracle
IDE and Tools–Github, Gitlab, Agile, Visual Studio, VS Code, XCode, Docker, Linux, Unix, Bash, Git
Awards -**Dean's List (2018 - 2019) | University Honors Award (2018 -2019) | Pi Tau Sigma** – HonorSociety
Courses - Operating Systems, Software Engineering, Computer Vision, Web applications, Data Structures and Algorithms