

Calvin Zheng

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EDUCATION

University of Michigan, College of Engineering

Bachelor of Science in Engineering – Computer Science, Minor in Business

GPA: 3.79/4.00

Relevant Coursework: *Data Structures & Algorithms, Machine Learning, Computer Organization, Web Systems, Computer Vision, User Interface Development, Discrete Mathematics, Theory of Computation*

Ann Arbor, MI
May 2022

EXPERIENCE

Capital One

Software Engineering Intern

New York, NY
June 2021 – August 2021

- Created multiple on-demand machine learning data pipelines using AWS and an Apache Airflow DAG to reduce analyzation time of new vendor datasets from 2-3 months to within 2 weeks
- Utilized AWS Lambda and S3 Triggers to instantly start the Airflow DAGs using the Airflow API once files are uploaded into AWS S3
- Developed the first dynamic Airflow DAG on the team, using Airflow XCom to store job-specific variables, allowing for concurrent DAG runs on multiple datasets
- Built a Slack app to send notifications to the data science teams and other users for monitoring the status of Airflow DAG runs

Intros.ai

Software Engineering Intern

Ann Arbor, MI
December 2020 – March 2021

- Created REST API endpoints, using Python and Tornado Web Framework, and added these API calls to the Bubble frontend, giving users the ability to modify the content of the forms associated with their groups
- Wrote a script using Python that automatically checks if users have responded to an initial opt-in email for the Intros application and sends a followup email using Sendgrid API if the user has not already accepted/denied the opt-in
- Refactored existing data models within the application to ensure consistency within the code base

Toyota Motor North America

Student Developer and Summer Engineering Development Co-op

Ann Arbor, MI
January 2020 – December 2020

- Developed full-stack using Spring, Angular, Material UI, MySQL and HTML5/CSS3 to replace an unstandardized Excel-based process with a responsive modern web application, optimizing overall efficiency by 35%
- Established a strategy plan for the rollout of a global internal system, keeping track of key dates and KPIs
- Built multiple automated PowerBI reports to track historic data trends, reducing time spent on compiling data snapshots by 50%

Teaching Assistant

Web Systems (EECS 485) and Gaming for the Greater Good (ENGR 100)

Ann Arbor, MI
September 2019 – Present

- Lead sessions for 100+ students and weekly discussions of 40 students for a web systems class with 500+ enrolled students, covering topics including static/dynamic webpages, REST APIs, and MapReduce
- Taught an introductory programming course focused on software accessibility in weekly discussions with 20+ students and a lecture of 50 students
- Created study materials, conducted weekly office hours, and monitored the online question forum, Piazza

MPowered Entrepreneurship

Chief Operations Officer, Vice President of Strategy, Makeathon Director, Makeathon Talent

Ann Arbor, MI
September 2018 – Present

- Manage 5 event teams consisting of 10 directors and over 80 talent members with a \$100,000 budget; led them from ideation through execution over the span of 6 months
- Developed plans with directors on project vision, event logistics, and talent recruiter; oversaw day-to-day operations including sponsorship calls, teaching effective communication and leadership skills, and created a website using GatsbyJS for the Makeathon event
- Raised over \$20,000 from sponsors from 15 companies; organized a 36-hour prototyping and design competition with over 250 participants and three corporate-sponsored workshops

PROJECTS

Pomoductivity

Productivity application combining the Pomodoro method and Kanban board

April 2021

- Utilized ReactJS, HTML5, CSS, and Firebase to create a web app that allows users to track their tasks on a Kanban board and follow the Pomodoro method while tracking user productivity statistics among a group of users

Spotify Mixer

Autogenerated Spotify playlist generator between multiple users (<https://spotifymixer.com>)

December 2020

- Utilized GatsbyJS, HTML5, CSS, and Firebase to create a web app that automatically generates a personalized playlist, using data from Spotify Web API, for a group of users

BallerStats

Video-based distance estimation tracker using computer vision techniques

April 2021

- Written in Python 3 and utilized computer vision techniques, such as camera calibration, object tracking, image transformations, and depth estimation with deep learning, to estimate the distance traveled in a game by a basketball player

HackMIT ZConnect

Zoom chatbot made to increase student engagement in virtual Zoom lectures and discussions

September 2020

- Used Python, Flask, and Selenium to create a Zoom chatbot with features such as anonymous student questions, real-time visualization of student engagement and understanding, and ability to search Piazza for questions using the in-meeting Zoom chat

ACHIEVEMENTS AND SKILLS

- Technical Skills: Java, C++, Python, C, Javascript, VBA, HTML5, CSS3, Angular, ReactJS, GatsbyJS, AWS Technologies, Apache Airflow
- Designed BlueTrace, a contact tracing system for the U-M bus system, featured in *Chronicle of Higher Education* and *Princeton Review*