

# Jaden Sun

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## EDUCATION

### University of Michigan

BSE in Computer Science GPA 3.79/4.00

Ann Arbor, MI

May 2024

Coursework: Data Structures and Algorithms, Computer Security, Multivariable and Vector Calculus, Differential Equations, Discrete Mathematics, Applied Linear Algebra, Intro to Probability and Statistics, Computer Organization

## SKILLS

Languages: C++, Python, React, Javascript, SQL, Css, HTML, Java, MATLAB, LaTeX

Technologies: Flask, Redux, RDS, Single-spa, EC2, Snowflake, Sqlite3, Postman, Firebase, Git, SolidWorks

## EXPERIENCE

### Capital One

Boston, MA

Fullstack Software Engineer Intern

June 2022 - August 2022

- Pioneered a modular root application to service 300+ auditors and developers using single-spa and React to allow for unlimited dynamic onboarding of outside applications and allow for easy micro frontend development
- Integrated 5+ python flask API endpoints to query Snowflake and RDS databases using sql with 1000+ entries over 10+ tables
- Developed a python smart placement algorithm using queues to fill an infinitely long grid, with 4 differently sized components, based on the priority of each component while leaving 0 empty spaces within the layout
- Incorporated sso authentication, onboarding forms, grid layouts, and redux state management which fully connect to related APIs and databases, creating dynamic views based on user preference and information from sso using Typescript code in React

### Atlas Digital Consulting

Ann Arbor, MI

Locheck Software Analyst

February 2022 - Present

- Continued development of the Locheck app that informs users of nearest recycling centers based on item barcode or image
- Advanced the reward system within the app by integrating a firebase database to store user and item information
- Connected firebase to frontend functionality for users to manage their virtual recycling bag and confirm recycling drop-offs

### Oakland Schools Technical Campus Northeast

Pontiac, MI

FRC and OCCRA Team #1 Student Design Lead

August 2016-May 2020

- Engineered and helped build robot that could collect and launch 8 dodgeballs over a 4 foot fence in under 10 seconds
- Coordinated weekly meetings with 20 students and 3 mentors to strategize and review designs and progress while overseeing weekly learning of physics and coding topics not covered in standard school curriculum
- Placed in the top 4 teams out of 40 other student run, local teams, and was awarded MVP of the season

## PROJECTS

### Personal Site

June 2022 - August 2022

- Created a personal website from scratch using React, Javascript, and Css with 4 pages and 5 interactive components
- Iterated over 10+ designs by implementing different technologies learned through 40+ hours of online instruction
- Incorporated responsive designs for both mobile and desktop view, visited by over 30 people

### Zoo Map

December 2021

- Utilized traveling salesperson and minimum spanning tree algorithms to find optimal paths to visit all animals on a zoo map
- Implemented heuristics for each algorithm to calculate possible paths 20-30% faster than with the standard algorithms

### Piazza Post Categorizer

April 2021

- Utilized binary search tree and map data structures to store and process over 3,000 training posts and tags
- Implemented an algorithm to predict and assign tags to new posts using log-probability and bag of words model with ~95% correct prediction accuracy on new data sets after training the machine learning model

### Analysis of Solar Power

January 2021-May 2021

- Collaborated with 3 other students to create self-powered solar tracking system that transmits data via bluetooth
- Led the algorithm development using Arduino allowing the system to detect and point towards the light source in 5 seconds
- Developed system using photodiodes, resistors, and servos to allow for 360 degree detection and movement
- Constructed baffle system to use difference in light intensities without having each diode on opposite ends of the system

## HONORS

William J. Branstrom Freshman Prize, University Honors, Dean's List

## OTHERS

Michigan Club Swim, UM Autonomy, Alliance Consulting, Chinese, Intermediate in German