Joseph Marcotte

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Education

University of Michigan **Expected Grad: Dec 2025**

Bachelor of Science in Engineering, Computer Science *Ann Arbor, MI*

- Relevant Courses: Data Structures and Algorithms, Intro Computer Organization, Foundations of Computer Science, Data Science, Computational Linear Algebra, Discrete Math, Technical Writing for Engineers
- GPA: 3.3/4.0

Technical Skills

Languages: C++, C, TypeScript, JavaScript, Node.js, SQL, HTML, CSS, Google Apps Script, VB.Net, Python, XSLT
Technologies/Frameworks: Vue, Vuex State Management, React, Rest APIs, Google Cloud Platform, Jira, Postman API
Methodologies: Agile, Git, Test Driven Development, CI/CD, Microservice Architecture

Experience

Covenant Eyes **May 2023 — August 2023**

Software Engineering Intern | Vue, TypeScript, Node.js, SQL, Rest APIs *Owosso, MI*

- Optimized member account review and management processes from two separate applications down to one by integrating into Zendesk, a Customer Relation Management System; harnessed data from nightly cron jobs, and automates account data sharing between managers and customers, reducing account management time.
- Led migration from a legacy application to a new internal tool microservice with Vue, Typescript, Node,js, and SQL to optimize managing promo codes and their affiliates, which streamlines affiliate linking and presents insightful data requested by user feedback throughout the agile development cycle
- Elevated the backend's Rest APIs by utilizing Typescript, Node.js, and SQL, along with the Typescript Zod data validation library for thorough HTTP request and response validation.
- Transformed the frontend by applying Vue, Vuex State Management, Typescript, HTML, CSS, and APIs across multiple microservices and third-party systems.
- Collaborated across teams, followed Agile practices, and utilized CI/CD pipelines for efficient development

Michigan Dining **September 2022 – Present**

Lead Software Engineer | Google Cloud Platform, Google Apps Script, Visual Basic *Ann Arbor, MI*

- Automated daily audits to run nightly using the Google Cloud Platform, and Google Apps Script to pinpoint vendor invoice discrepancies and generate reports for the program manager saving the university $50,000 monthly.
- Developed macros in Visual Basic for Excel to efficiently transform raw and unstructured data from Excel files into well-organized and tailored tables, aligned with specific department or unit requirements which streamlines data processing.
- Managed a Google Web App for logging employee's overtime hours and includes supporting developer documentation. Built with jQuery, HTML, and CSS for the frontend, and Google Sheets for the backend

Projects

NFL Game Historical Data | *React, React Router, JSON* **August 2022**

- Designed and implemented a user-friendly React application for NFL Game Historical Data where users can conveniently access and display team data within their chosen timeframes.
- Leveraged Node.js to fetch data from a JSON file, incorporated React Router for seamless component navigation, and enabled users selections to be stored in Local Storage, which enhanced data analysis efficiency by presenting neatly formatted tables of NFL Data

Machine Learning with Car Data | *C++, Object Oriented Design, Test Driven Development* **November, 2022**

- Categorized car data into clusters based on given categories like mpg, number of cylinders, and engine size, into K "clusters" of data that have similar properties using a K-means algorithm by interpreting a csv file for the dataset using object oriented design with C++.
- After the convergence algorithm finishes, the data is presented in an informative 3D scatter plot using MatLab along with respective centroids

Black Jack | *JavaScript, HTML, CSS* **June, 2022**

- Built a website with JavaScript, HTML, and CSS that allows a user to play black jack against a dealer.
- Uses algorithms to have realistic odds and logic to determine the dealers decisions and hand.
- Displayed with a mobile responsive interactive design using media queries in CSS.