

## Matthew David

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### EDUCATION / AWARD

#### University of California San Diego, BS in Cognitive and Computer Science, GPA: 3.86

2021 – 2025

*Relevant Coursework:* Data Structures and Object-Oriented Design, Software Tools and Techniques, Mathematics for Algorithms and Systems, Computer Organization and Systems Programming

**Awards:** Presidential Service Award recipient, Hispanic Honor Society member, 2nd place overall ACM Hackathon

### EXPERIENCE

#### Full-Stack Student Engineer | *Biology Computing Services, UC San Diego*

August 2021 – Present

- Overhauled website's search functionality utilizing **Apache Solr and react**, leading to a reduction in search time and a boost in search accuracy.
- Implemented a **PostgreSQL relational database** with pair programming assistance, integrated with Apache Solr to enable complex query processing, significantly improving search result relevance and supporting advanced data analytics features.
- Redesigned and implemented new website styles to align with WCAG accessibility guidelines, using **SCSS**, leading to an increase across various KPI's of website performance such as speed, SEO, and others.
- Authored comprehensive **technical documentation** for custom-developed scripts, ensuring clear guidelines for maintenance and facilitating ease of knowledge transfer and future scalability

#### Application Developer | *Temporary Kitchens 123*

2019 – 2020

- Built a secure client login portal using **React** for the front-end and **Node.js with Express** for the back-end, enabling users to access their account history and manage claims
- Transitioned critical components of Temporary Kitchen's internal client portal micro-service from on-premises infrastructure to **AWS**
- Optimized the speed and responsiveness of the client login portal by leveraging **React's** virtual DOM and implementing efficient data fetching with **GraphQL**, ensuring seamless navigation and interaction even under high user demand.
- Maintained and updated React based technical documentation pages

### PROJECTS

#### Zoom for Elders | *React, TypeScript, Nextjs, Node, Clerk Auth, GetStream*

2024

Use: <https://elderzoom.vercel.app/> | Login -> username: admin Password: admin1admin!

View source code: <https://github.com/mmdavid1/elderzoom>

- \* Developed a full-stack application using **React with TypeScript** for robust client-side interactions and **Next.js for server-side rendering and API routes**.
- \* Integrated **multiple participants, recording, view previous meeting, and schedule meeting** functionalities through the getStream API.
- \* Added **User authentication and account setting functionalities** through third-party Clerk API

#### Wildfire Prediction Model / Visual Display | *React, leaflet, Pytorch, Node.js*

2024

View demo: <https://youtu.be/WhLpp-TJ9Yc?feature=shared> | View source code: <https://github.com/pink10000/BlazeGuard.ai>

- \* Developed an interactive map of the US with **react** displaying previous and predicted wildfires (Trained on US Forestry data)
- \* Designed an intuitive interface that allows for **specific location search** (Google Places API), **toggle between different map views** (TileLayer API), and **dynamic rendering** of fires based on state.
- \* Used satellite imagery from 30 year period to train a CNN to predict specific locations where wildfires are likely to occur.

#### Broken Links Finder and Fixer | *Google app script, Typescript, Clasp CLI*

2023

- \* Designed and implemented a data processing script using **Google Apps Script and TypeScript** to extract and clean data from a third-party API, ensuring accuracy and usability.
- \* Integrated and matched the processed data with information from third-party API, formatting it for individual user applications and enhancing data relevance.
- \* Authored detailed **technical documentation** for the script and implemented measures to comply with third-party API rate limits, ensuring smooth and efficient operation.

### TECHNICAL SKILLS

**Languages :** Java, Python, C/C++, SQL (Postgres, MS-SQL, MySQL), GraphQL, JavaScript, TypeScript, HTML, XML, JSON, CSS, Sass

**Frameworks :** jQuery, React, React Native, Vue.js, Node.js, Flask, Django, ExpressJS, Bootstrap

**DevOps and API Tools :** Git, Docker, Postman

**Others :** Data Modeling, Agile (Scrum/Kanban), SOLID, Design Patterns, Debugging, Root Cause Analysis, Test Driven Development