# Omar Badr

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## EDUCATION

**San Diego State University** — San Diego, CA
*Bachelor of Science in Computer Science (GPA: 3.6, Major GPA: 3.9)* — *May 2025*

## EXPERIENCE

**Backend Software Engineer Intern** — Nov. 2024 – Present
*BreatheIT Solutions* — *Eagan, MN | Remote*
- Developed backend with **Model-View-Controller** pattern, managing **28+ API** endpoints for **CRUD** operations using **Node/Express, JWT authentication, PostgreSQL**, and error handling for date-based queries
- Built **OAuth 2.0** authentication system, implementing token encryption, session management, and automated token refresh with **Google API** and **PostgreSQL** storage
- Worked with front-end team using **React Native** to integrate user-facing features with **PostgreSQL** database, ensuring data synchronization and improving user experience
- Deployed updates on **Google Cloud Platform**, configuring **NGINX** for load balancing and using **PM2** for process management to ensure uptime and simplify deployment

**Full Stack Software Developer Intern** — May 2024 – Aug. 2024
*Eligico* — *Los Angeles, CA*
- Developed and maintained **5+** dynamic websites using **React, MySQL, and PHP,** improving page load times by **20%** and increasing user engagement by **15%**
- Designed and optimized **MySQL** database by normalizing schemas, indexing key columns, and optimizing queries to enhance data storage efficiency and performance.
- Managed containerized applications using **Docker**, streamlining development workflows and improving deployment efficiency

## PROJECTS

**Football Connections** | *React, Node, Express, MongoDB* | football-connections.onrender.com — Jun. 2024 – Present
- Developed and deployed, a **React/Node.js** word connections game, getting **2,000+ visits** in **3 months**
- Implemented secure backend for feedback and statistics collection using **Express.js with MongoDB**, incorporating rate limiting, data sanitization, and Helmet security middleware to prevent common web vulnerabilities
- Built responsive UI components with **Tailwind CSS**, including modular game logic, animated reveals, and error boundaries for graceful failure handling

**LLM Prompt Enhancer Chrome Extension** | *Javascript, OpenAI API* | Github — Jul. 2024 – Present
- Developed a Chrome extension leveraging **OpenAI's GPT-3.5 API**, and **fine-tuned** the model to dynamically expand user prompts, significantly enhancing language model outputs
- Published the extension gaining **20+ downloads** and an average of **5 stars reviews**
- Implemented **asynchronous messaging**, secure **API** integration, and **local storage** for user experience

**Unix Shell Implementation** | *C++* | Github — Jul. 2024
- Built a **Unix** shell that handles multiple piped commands using low-level system calls (fork, exec, pipe) for process creation and communication
- Created a command parser that finds executables in system PATH and connects processes for commands like "ls — sort — grep", supporting arbitrary pipe chains

**MRI Scan Knee Injury Classifier** | *Scikit-learn, Tensorflow, Pandas, NumPy, OpenCV* | Github — Nov. 2024
- Preprocessed MRI datasets and extracted features to classify normal and abnormal knee injuries using **SVM and CNN** models, optimizing accuracy and F1-score for imbalanced data.

## SKILLS

**Languages**: JavaScript, Java, Python, C++, SQL, HTML/CSS
**Technologies**: React, Node, Express, Tailwind, MongoDB, MySQL, PostgreSQL
**Developer Tools**: Git, Docker, Google Cloud Platform, Postman