BENJAMIN OKOJIE

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benokojie.github.io/BenjaminPortfolio/

Education

Wilfrid Laurier University — **September 2023 - June 2026**
Bachelor of Computer Science with Concentration in Big Data — *Waterloo, ON*
- Courses: Software Engineering Practice, Data Visualization, Databases, Artificial Intelligence, Algorithms and Data Structures, Intro. to Computer Networks, Statistics

Work Experience

Software Developer — **June 2024 − Present**
Hopspot — *Waterloo, ON*
- Managed both backend and frontend using javascript framework, **React**, and **Firebase** services, leading to a **15% increase** in user engagement by providing real-time updates and social interaction features
- Implemented dynamic wait time, by utilizing **google traffic API**, by giving users consistent visual feedback on how busy it is around the bar, reducing response time with Realtime data without waiting for input updates from other users
- Employed efficient data handling for real-time updates, optimizing communication between components for smooth user experience.

JavaScript and Unity Instructor — **Sep 2022 - Aug 2024**
Code Ninjas — *London, ON,*
- Conveyed concepts through everyday experiences, such as illustrating functions with activities like walking, or running. Presenting the concept of loops and sequencing with fun group games.
- Provide updates at daily standups to company leaders, work in progress, students and challenges that need attention, and potential improvements to the curriculum.
- Create, organize, and teach the fundamentals of programming and problem-solving techniques using **JavaScript**, **Lua** and **C#** to over **50** students daily.

Projects

Zoopedia — **https://zoopedia-web.vercel.app/**
- Built a daily animal guessing game using **Next.js**, **TypeScript** and **Redis**, where users guess the animal based on AI-generated hints using **Gemini API**.
- Constructed scalable **Redis** data structures in **TypeScript** to manage user sessions, guesses, and daily completion, as well as banking extra hints for re-usability of resources.
- Implemented persistent game state tracking in Zoopedia using **Redis**, allowing users' guesses and progress to be saved even if they closed the tab or refreshed the page, ensuring a seamless experience across sessions.
- Optimized gameplay logic to ensure fair scoring, state reset on each daily attempt, and intuitive user feedback on win/loss conditions.
- Implemented a leaderboard system that tracks daily Scores and all-time performance, keeping track of users via session tokens, using **Redis** for fast, real-time data access.

Gift Smart — **https://gift-frontend-bice.vercel.app/**
- Developed a fullstack AI-powered web application in **python** and **JavaScript** that generates personalized gift suggestions based on user interests, budget, and age.
- Built a **RESTful backend** with **FastAPI (python)**, using **Pydantic (python)** for data validation and structured gift object modeling.
- Integrated **Gemini API** to generate custom gift recommendations, including DIY options with cost and time estimates, based on gift receivers interests.
- Implemented secure user authentication using **Supabase Authentication**, enabling email/password login and protected API endpoints with **JWT verification**.
- Deployed the **React** based frontend on **Vercel** and **python** backend on **Render**, ensuring smooth cross-origin interaction and environment variable handling.

Technical Skills

Languages: Python, Java, TypeScript, SQL, HTML5, CSS, JavaScript, C, R

Libraries/Frameworks and Tools: ReactJS, PostgreSQL, matplotlib, numpy, pandas, pydantic, FastAPI, Supabase, GeminiApi, NextJS, NodeJS, Firebase, Vercel, Render, Git, Android studio, Expo