Jack Oien

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EDUCATION

University of Minnesota Duluth Expected May 2027

B.S. Computer Science

Relevant Coursework: Data Structures, Software Engineering, Computer Architecture, Computer Security, Software Design

WORK EXPERIENCE

Great Lakes Roofing and Siding July 2025 – Present

Logistics Associate

- Automated customer outreach using a Google Sheets extension, sending 15 follow-up emails per week and recovering the company's review count from 0 to 32 across 107 total reviews.

- Coordinated material logistics across multiple active job sites, managing transport, site prep, and post-job cleanup.

PROJECTS

AI Desktop Chat *Tauri, Rust, React 19, TypeScript, Supabase, OpenAI* 2025 – Present

github.com/r-b-1

- Built a native macOS desktop app in Tauri (Rust) + React 19 that monitors any on-screen window, runs OCR via the macOS Vision framework, detects question patterns, and dispatches them to GPT-4o mini in under a second.

- Implemented perceptual hashing (pHash) on a 400 ms Tokio background loop to skip unchanged frames, keeping CPU usage low during continuous watch sessions.

- Engineered streaming OpenAI responses over SSE with exponential backoff + jitter retry (429/5xx), and live web search with per-message inline URL citations.

- Persisted multi-session chat history in Supabase (PostgreSQL + Storage) with full create, rename, and delete support.

Bloc Party *Flutter, Dart, Firebase, Google Maps API* Fall 2025

github.com/r-b-1/bloc-party

- Owned the home screen and item data layer in a 5-person team — built the Firestore item model, live item feed, neighborhood-scoped filtering, search/filter widget, and asset image system with Android path resolution.

- Built a JSON-driven runtime theme system using Provider, enabling light/dark/custom themes switchable without app restart.

- Implemented public/private item description views scoped by ownership and integrated with the borrow scheduling flow.

Zork-Style Adventure Engine *C++* Fall 2023

- Reverse-engineered Zork's terminal mechanics and designed an original world with branching narrative in C++, with a 5-person team using Git and UML class diagrams.

- Established documentation standards and introduced structured Git workflow for the team's first collaborative project.

SKILLS

Languages: Dart, TypeScript, Rust, Python, Java, C++

Frameworks & Tools: Flutter, React, Tauri, Vite, Firebase, Supabase, OpenAI API, Google Maps API

Concepts: REST APIs, SSE Streaming, OCR, OOP, Git, MVC Architecture, Agile/Scrum