MATTHEW P[redacted]

Software Engineer

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WORK EXPERIENCE

[redacted], **Arkansas**

Software Engineer I Feb 2023 – Sep 2025

- Developer for [redacted] a SaaS retail analytics business intelligence app that aggregates data for suppliers selling products through top retailers including Walmart, Target, and Kroger.
- Migrated frontend codebases from Vue2 to Vue3, and from JavaScript to TypeScript, improving performance, maintainability, and type safety, enabling better scalability and developer experience.
- Wrote data connection code to automate login and data retrieval from Walmart's Retail Link supplier portal on behalf of our customers to download their data seamlessly into our platform from Walmart's SQEP and Item 360 applications.
- Developed [redacted] a micro-frontend app serving as a lightweight alternative to MicroStrategy, allowing users to create custom datasets. Developed features for scheduling, email automation, and rendering datasets within users' Excel reports.
- Enhanced our internal Blazor WASM web tool to streamline operations and automate the customer onboarding experience.
- Mentored interns and junior engineers. Onboarded new developers.
- Daily experience with TypeScript, Vue.js, C#, ASP.Net Core APIs, Azure, SQL, and interfacing with MicroStrategy and Snowflake.

[redacted], **Virginia**

Pre-field Engineer Jun 2011 – Feb 2023

- Reviewed commercial HVAC system designs and reported deficiencies to the mechanical engineer

PROJECTS

BFBB Decompilation Project

Open Source Sep 2021 – Present

- Working with a skilled team of reverse engineers to manually decompile a game for the Nintendo GameCube. This process involves studying PowerPC assembly instructions and low level data structures, analyzing control flow, and manually decompiling program logic back into high-level C++ source code, which when compiled matches the original executable perfectly at the bit level. This process effectively recreates the original source code.
- Created an automated progress tracking website for the project using React.

Lentokonepeli

Open Source Apr 2024 – Present

- Reverse engineered, re-implemented, and ported a 2D multiplayer Java Applet (defunct) browser game to Rust (with TypeScript + React), and WebRTC to facilitate peer connections and allow the game to be played again.
- Wrote a deterministic replay system to allow matches to be saved and watched again.
- Wrote custom binary network serialization macros to optimize data sent over the network.

CCSR Port

Open Source Sep 2022 – Nov 2022

- Reverse engineered, re-implemented, and ported a series of beloved Macromedia Shockwave games (in Lingo) to TypeScript (with React), allowing them to run once again on the modern web.
- Implemented improvements such as 60+ FPS, full-screen support, and support for translation to different languages.
- Created a fully featured map editor using React and TypeScript.

GameBoy Crust

Open Source Oct 2017 – Dec 2017

- Created a multi-platform emulator for the Nintendo Game Boy using Rust.
- Debugged assembly code and intricate system components, accurately implemented the Sharp CPU instruction set.

EDUCATION

[redacted], **Virginia**

A.A.S. in Computer Science Jun 2011 – Sep 2013

SKILLS, LANGUAGES, INTERESTS

- **Languages**: English (Native), Spanish (B2)
- **Programming Languages**: C#, TypeScript, JavaScript, Python, Rust, C/C++, Java, F#, Haskell
- **Tools**: Git, Visual Studio Code, JetBrains Rider, Docker, SQL, Azure, Jira
- **Web Development**: React, Vue.js, ASP.NET Core, Node.js, HTML/CSS
- **BI & Data Analytics**: MicroStrategy, Microsoft Excel, Snowflake
- **Interests**: Running, Chess (2000 Elo), Reverse engineering, Language learning, Travel