Ethan Rule

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Education

Washington State University   ***Graduated Dec 2024***
Bachelor of Science in Computer Science   GPA 3.4

Work Experience

Rudarz.com - Solo SaaS Developer   Jun 2024 - Present
Built a course website based on my personal competition experience, which has helped over 250 players and has generated over $2500 in personal revenue.
- Built a full-stack web app (Next.js, Node.js, PostgreSQL) hosted on Vercel.
- Authored and sold a comprehensive player guide, with over 250 paying customers.
- Integrated Stripe payments, Google Auth, and session-based authorization for premium content.
- Connected Vercel's CI/CD pipeline to GitHub repository for continuous updates.
- Scored 100, 95, 100, and 73 in performance, accessibility, best practices, and SEO, respectively, on a Google Lighthouse report.
- Overhauled UI/UX to allow for better navigation and information flow for both beginner and advanced users.

TruDate Internship   May 2023 - Oct 2023
- Designed and tested UI/UX features for a mobile dating app MVP using Typescript, React, and Testflight.
- Gathered feedback and experience from other dating apps to allow the team to better meet user needs.
- Implemented frontend UI changes based on requirements from GitHub issues.

Projects

AI Shot Detection *(Capstone Project)*
Developed a machine-learning Android app to help basketball players improve their skills. Placed 3rd out of 20 for the winter 2024 Computer Science Capstone project competition.
- Led backend and Machine Learning optimizations and integrations using Google MediaPipe and TensorFlow.
- Ensured compatibility with lower-spec devices by developing on the Android Pixel 3.
- Organized meetings with developers, clients, and the class professor to ensure the project was moving in the correct direction.
- Created backend queue algorithm to reduce object detection inference time from 40ms to 1ms.
- Implemented unit tests to test critical app features such as the hardware integrations, the backend queue algorithm working, and basic model object detection.

Rust Web Service
   Rust BSON Document Store
   - Engineered a custom document database engine in Rust using a BTree-backed storage system and BSON serialization.
   - Designed type system and data serialization/deserialization; implemented custom traits, enums, and structs for a BTree-based BSON document store.
   - Developed a binary encoder to serialize JSON into BSON by writing a length-prefixed format in little-endian, key-value encoding, and 0x00 termination for disk persistence.
   Rust Web Servers
   - Built two web servers in Rust: one using Hyper.rs, and another based on the Rust Programming Book.
   - Implemented thread pooling to handle multiple long-running requests synchronously.

WoW Addons
Created two wow addons using Lua one for mass player messaging, and one for a gameplay enhancement.
- Designed and shipped a quality of life addon in Lua, with 800+ downloads.
  - Predicted player behavior using real-time game data, giving players opportunities to counter and outplay opponents.
- Built an addon that speeds up networking where people want to connect, but lack the means to do so.
  - Built a feature that enhances communication by allowing the sending of a mass message to a group.

Technical Skills

Languages: Rust, Python, C, C++, C#, Typescript, Javascript, Lua, HTML, CSS, SQL.
Frameworks/Tech: React, Node.js, React Native, Cargo, Git, FFmpeg, NumPy, Tailwind CSS, OpenCV.