Ethan Randolph Dibble

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Education

Portland State University **2022 – Present**
BS in Computer Science and Mathematics *Expected 6/2027*
GPA 4.0 : President's list 2022 – present

Technical Skills

Programming: C, C++, Go, Rust, Python, Bash, Lua, Haskell, GLSL, WGSL, SQL (PostgreSQL, SQLite)
Operating Systems: Linux (Ubuntu, Ubuntu Server, Fedora Workstation, Kali, Raspberry Pi OS), Windows
Developer Tools: Git, GitHub Actions, Make, VSCode, Vim, Agile

Projects

Rayt-rs **Rust (Personal Project)** **8/2025 – Present**

- Building a mutlithreaded software ray tracer focusing on parallelism and performance optimization.
- Implemented multiple samplers and materials, as well as TOML deserialization.

OXID-8 **Rust, HTML, CSS (Personal Project)** **4/2025 – 7/2025**

- Developed a CHIP-8 interpreter library in Rust with a focus on instruction decoding and memory management.
- Implemented a native and web frontend using WGPU as well as a terminal UI frontend using Ratatui.
- Documented and published the library crate to crates.io for other developers to use.
- Wrote a test suite for interpreter operations and drawing to a virtual screen for validation.

Recipe Server **Rust, HTML, CSS (Class Project)** **4/2025 – 6/2025**

- Utilized Axum, Askama, Leptos, and Sqlx to develop a full-stack recipe server with a CRUD API.
- Containerized the backend using podman and ran a Leptos frontend using the API.
- Documented the API using the OpenAPI standard.

Music Genre Classification **Python & Flask, HTML, CSS (Team Project)** **6/2024 – 8/2024**

- Developed a CNN feature extractor to preprocess audio files into compact, high-level features for use in separate DNN and SVM classifiers built by myself, and other classifiers built by my team members.
- Wrote a collaborative research paper detailing our results and comparing the efficacy of the models.
- Deployed a Flask website on AWS with our best model providing Spectrogram images and Prediction labels.
- Held bi-weekly team meetings to discuss our progress.

MERN Stack Chat App: JavaScript, HTML, CSS (Team Project) **4/2024 – 6/2024**

- Utilized MongoDB, Express.js, React.js, Node.js, and Socket.io to develop a full-stack, real-time, chat application using WebSockets with a RESTful API and user encryption using Google OAuth2.
- Practiced AGILE methodologies and engaged in weekly standups to discuss our progress and direction.
- Utilized a microservices architecture and deployed each service through independent Docker containers.

Viktar: C (Class Project) **Mar 2024**

- Developed a tape archiver for creating uncompressed archives.
- Implemented features to print contents, extract, and validate archives using a cyclic redundancy check.
- Built an automated Bash test suite to ensure reliability and correctness.