

Ben Kunkle

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Software Tools: 🍷 vim 🐱 Git 🐧 Linux

Languages: 🐍 Python 🦀 Rust ☕ Java 🇨 C 🇲 Lua

Experience

Millipyde *Research Project* | <https://digitalcommons.calpoly.edu/theses/2374/>

Skills Team Work, Collaboration

Description A project I recently became involved with working on a tool that adds datatypes for gpu backed arrays and images to Python

Ant Simulation *Personal Project* | <https://nebsite.website/modules/ant-sim/index.html>

Skills Algorithms, Rust, Game Dev, Simulation, Research

Description Simulating data retrieval in peer-to-peer (P2P) networks with a system inspired by ants

- Conducted research on P2P networks inspired by ant pheromone systems and developed a visual simulation of the algorithm.
- Created a comprehensive report documenting the research and design process, including a live demonstration of the program using WebAssembly.

Wave Function Collapse *Personal Project* | <https://nebsite.website/modules/wfc-rust/index.html>

Skills Algorithms, Adaptability, Haskell, Rust

Description Implementation of Wave Function Collapse, the constraint based bitmap generation algorithm created by Maxim Gumin.

- Implemented algorithm in Haskell, but quickly hit dead ends.
- Rewrote it in Rust to gain new perspective.
- Used winit and wgpu created a desktop and a web based viewer for the Rust implementation.

Camp Towering Pines For Boys *Camp Counselor* | Summers of 2021 and 2022

Skills Leadership, Responsibility, Accountability

Description Six week overnight camp in Northern Wisconsin. I was personally responsible for a cabin of 15 boys aged 14-16 each summer.

Smaller Projects

Skills Solving Problems, Exploring/Experimenting

Description I love working and playing with computers and look for excuses to do both

- Created Goclone, a cli tool that uses rclone for backing up files to Dropbox to save battery.
- Developed a resume generation system using TOML, LaTeX, and Jinja2 to separate formatting and content, allowing for quick iteration and easy updates.
- Enjoyed college course on Systems Programming, where projects were built from scratch in C, including a word frequency counter using a trie, Huffman encoding/decoding and simplified versions of GNU Tar, Talk, and Uniq.

Education

California State Polytechnic University

Pursuing Bachelor of Science Degree in Computer Science - Sept 2021 to present

Notable Completed Courses Data Structures, Computer Architecture, Systems Programming, Discrete Structures