

## Nathaniel Saxe

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[github.com/DireLines](https://github.com/DireLines)

### Education:

B.S. Computer Science from University of Virginia (2020)

CS 6161 - Algorithms

CS 4810 - Computer Graphics

CS 4774 - Machine Learning

CS 4730 - Computer Game Design

CS 4444 - Parallel Computing

CS 4414 - Operating Systems

CS 4260 - Internet Scale Applications

### Relevant Skills:

Troubleshooting - my single biggest talent is identifying the source of a bug and designing a robust fix for it.

Optimization - nothing gives me greater joy than profiling an application and removing the bottleneck.

Mathematics - I like math and CS theory and always try to further my knowledge of it.

Automation - Comfortable abstracting away tedious work at any level.

Proficient in: C++, Python, Rust, JavaScript, C#, Go, Git, Docker

Ok at: Java, bash, CUDA C, I can read assembly if it comes to that

I have used: React, Svelte, MPI, Kafka, Spark, Travis CI, flamegraph, Elasticsearch, AWS

Lambda, SQS, neo4j, Serverless Framework, numpy/pandas, Postgres, Unity, cmake, OpenGL

I know these terms: MVC, ECS, RAII, Map-Reduce, salting, sharding, DRY

### Experience:

Independent Game Developer (2025 - present): Making games and open source tools. Games are in a custom 2D engine using the Odin language with Raylib for graphics. Tools include a browser-based graph editor, code generators for maintaining go backend APIs, and a command line utility to ingest timing logs from programs and generate live histograms.

Software Engineer - Runpod (2023 - 2025): Full stack engineering for a GPU cloud startup. Designed features to improve UX on web console, enabled collection/aggregation of large volume of billing data, created CLI for rapid iteration by propagating local file changes to the container, implemented a container crash detection and alerting system, created a REST API with improved UX and maintainability over previous API. Lots of experience with Postgres, Go concurrency, Typescript and Docker.

Software Engineer 2 - Comcast (2021 - 2023): Helped implement core functionality and design serverless orchestration logic for a diagnostic test to detect signal interference at scale. With a partner, designed and implemented a full stack for aggregating queries sent to a GraphQL service at very large scale, incorporating EC2, Go, TimescaleDB, and React.

Director - Student Game Developers (2018 - 2020): Oversaw the development of two games in Unity, managing a team of 13 students and programming many of the games' core systems. Provided introductory Unity help to many on both teams, and learned to delegate tasks according to individuals' comfort level.

Teaching Assistant - University of Virginia (2018 - 2020): TA'd for CS 4102 (Algorithms) for three semesters and CS 2102 (Discrete Math) for one semester. Learned how to teach and grade.