Nathan George

Education

Pursuing Major: BA in Computer Science
Expected: Spring 2025
University: JB Speed School of Engineering, University of Louisville 📌
Credits Completed: 100

Contact

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Website: nathang.dev

Skills

Programming
SQL | Python | C# | C++ | C | Java | Typescript | HTML | CSS | Arduino | Machine Learning | HLSL | UI Design | Networking

Tools
Git | Linux | Visual Studio | VSCode | nginx | Android Studio | Unity | Blender

Non-Technical
Logical Analysis | Initiative | Learning | Communication | Organization | Leadership | Details

Interests
Artificial Life | Self-Sustaining Systems | Anthropology | Programming | Game Design | Video Games | 3D Art | Learning | Document Organization | Music Composition | Piano | Digital Art | Baking

Work Experience

Robotics Research
May 2023 — Current | LARRI, Louisville, KY

- Creating robotic simulation software using the Unity game engine
- Writing computer vision algorithms for pick and place tasks
- Creating frontend and backend controls for robotic systems
- Organized source control systems for teams
- Helped design NGS research group website

Teamwork | C++ | Python | Javascript | Algorithms | Git

Data Structures TA
September 2022 — May 2023 | UofL, Louisville, KY

- Created automatic grading software to build and test student submissions.
- Reduced the workload for grading and student assistance by at least 20x.
- Improved assignment readability for better communication of problem objectives to students.

C++ | Python | C# | Linux

Personal Projects

Obsidian HTML Exporter
Personal | 2022 - Now

- Wrote a plugin / tool for exporting Obsidian notes and vaults to interactive websites
- Generates a dynamic HTML / JS / CSS website which includes a file explorer, document outline, physically simulated connection view, and more.
- Obtained over 700 stars on GitHub and 50,000 release downloads!

Typescript | HTML | CSS

Natural Grapher
School | Github | 2022

- Open arbitrary .csv files into a clean data visualization UI.
- Apply aggregations and filters to data.
- Lead this project with a team.
- Implemented the UI, graphing systems, and data aggregations.

Python | pyqt | Illustrator | Collaboration | Leadership

Mobile Wi-Fi Texting
Personal | 2021

- Designed a messaging app to send Wi-Fi texts using TCP.
- Developed a self-hosted relay server.
- Stored messages locally in an SQLite database.

SQL | Android | Networking | C#

Multiplayer Scrabble
Personal | Github | 2022

- Designed an online multiplayer scrabble-like game for Android and PC.
- Created a backend relay server so anyone can play together.

Unity | Networking | C#

Particle Physics Engine
Personal | Github | Current

- Coded a GPU accelerated physics sim supporting up to 1,000,000 particle-particle collisions in real-time.
- Used spacial partitioning to accelerate collision checks by 1000%.
- Planning to design an artificial life simulation using this as a base.
- Previous iterations had particle based organisms with neural networks.

C# | HLSL | Machine Learning | Algorithms

My Website
Personal | Current

- Designed and built from scratch a portfolio website.
- Hosting it on a web server at my home using nginx
- Set up SSL so it can be accessed through HTTPS
- View it here: nathang.dev

HTML | CSS | JavaScript | nginx