

Luke Roche

SOFTWARE ENGINEER · LUKEROCHEDEV@GMAIL.COM

 /compiler

 /in/luke-roche

Education

Rowan University

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Graduated Cum Laude

Glassboro, New Jersey

Sep. 2020 - Dec. 2021

Skills

ENGINEERING SKILLS + CAPABILITIES

- C++, Javascript, GLSL, Python, C, QML, Qt, CMake, Multithreading, FFMPEG/AvLib, OpenCV, MPV/libplacebo
- Go, Python, Java, Video domain knowledge, Build systems, Rendering APIs, Full stack, Product management, Conan
- OpenGL, Vulkan, Data oriented design, Performance computing, Scalable systems, System design, Algorithms

Experience

Technical Lead - VideoAI

Dallas, Texas

TOPAZ LABS - 60M/YR REVENUE STARTUP

July 2024 - present

- Team lead with 3 direct reports + managing product strategy and velocity.
- Drove product vision in conjunction with CEO & PM to design high leverage features for engineering.
- Main technical consultant for main systems throughout applications.
- Wrote the video player from ground up with Vulkan to apply post processing and beat out existing video player libraries.
- Solo contributor to reducing latency in the applications through better data throughput and modern c++.
- Wrote Image products rendering backend to allow for 100,000x100,000 images to render in real time.

Software Engineer - VideoAI

Dallas, Texas

TOPAZ LABS

August 2023 - July 2024

- Rewrote the existing videoplayer with concurrency to improve user workflows and increase the core workflow of the application.
- Implemented crash recovery and pause/resume process features for VideoAI, which were highly requested for 2 years.

Software Engineer - Automation

Santa Clara, California

INTEL

January 2022 - July 2023

- Business critical team that ensures high quality chip mask inspection + replication using microservices.
- Designed systems for 3 separate Intel projects, with end-to-end ownership of one major project.
- Collaborated with customers and multiple engineers to increase throughput of CPU mask inspection and transfer.
- Awarded the "Intel Department Award" for infrastructure improvements in a project that saves Intel \$20,000,000 per fabrication plant.

University Machine Learning Research

Glassboro, New Jersey

UNDER DR. BO SUN, SPONSORED BY ASRC + UNDER DR. KAI WANG, SPONSORED BY LSAMP

September 2017 - December 2021

- Built a distributed scraper to get 20,000,000 lines of code for training a code-to-comment generating ML model.
- Researched white papers, business implications, and other concerns for publishing the paper.

Projects

Cast Rendering Engine

Carrollton, Texas

RENDERING ENGINE

Oct. 2024 - Current

- Building a full rendering engine with hardware acceleration for rasterization and RTX.

P2P Robot Remote Control

South River, New Jersey

PEER2PEER STREAMING AND CONTROLLING OF ROBOT

Dec. 2022 - July. 2023

- Deployed and configured a server to signal between two peers to establish a WebRTC connection.
- Constructed a TURN server to bypass symmetric NAT restrictions during peer-to-peer connection setup.

Vofog - Complete Game Engine

Sparta, New Jersey

C++ & LUA COMPLETE GAME ENGINE

Jan. 2019 - Sep. 2019

- Architected a fully featured C++ engine with a heavy focus on scalability, performance, and ease of operation.

A2B - GoogleMaps with no internet

Glassboro, New Jersey

HACKATHON PROJECT BUILT IN 24 HOURS

Feb. 2017

- Accumulated both the 2nd place and "Hackers Choice" prize for "The Greater Cause" with technology in 24 hours.