


Luke Roche

SOFTWARE ENGINEER · LEARNING ENTHUSIAST

 /compiler

 /in/luke-roche

 /lukerochedev

Education

Rowan University

B.S. IN COMPUTER SCIENCE AND B.A. IN PURE MATHEMATICS

Related Coursework: Calculus I-III, Introduction to AI, Compiler Design.

Glassboro, New Jersey

Sep. 2020 - Expected Sep. 2022

Kean University

B.S. IN COMPUTER SCIENCE AND B.A. IN MATHEMATICS

Related coursework: Data Structures, Assembly, Computer Architecture.

Union, New Jersey

Sep. 2016 - December. 2017

Experience

Natural Language Processing Research

UNDER DR. KAI WANG, SPONSORED BY LSAMP

- Computed the novelty of a document relative to millions of other documents within the same subject space.
- Implemented an algorithm to optimize populating and sectioning a graph with over millions of data nodes.

Union, New Jersey

Sep. 2017 - Jan. 2018

Virtual and Augmented Reality Research

UNDER DR. JENNY LI, SPONSORED BY STEMPACT

- Researched ability of virtual and augmented reality to be implemented and survive in the marketplace.
- Garnered 1st place in final evaluation at Kean STEMPact after 8 months of research and experimenting.

Union, New Jersey

Oct. 2016 - May. 2017

Projects

Rare

VULKAN BACKEND RENDERING ENGINE

- C++ Rendering Engine using Vulkans API to facilitate rendering for fragment shader ray tracing/marching.
- Optimized for quick buffer allocation and uniform transfers to allow for a ray tracing testing environment.

Sparta, New Jersey

July. 2020

Vofog

C++ & LUA COMPLETE GAME ENGINE

- Fully featured C++ back-end game engine with a heavy focus on scalability, performance, and ease of use.
- Complete intermediate mode GUI, Lua scripting, batch rendering, and entity component system support.

Sparta, New Jersey

Sep. 2019

NLParallel

MACHINE LEARNING CONNECTION GENERATOR

- Generates a connection, using Natural Language Processing & Python, between any two general topics.
- Scrapes, archives, and populates data in a graph to allow fast connections between two "topic" nodes.

New Brunswick, New Jersey

Aug. 2018

A2B

HACKATHON PROJECT BUILT IN 24 HOURS

- Gives users the ability to use GoogleMaps, without internet, through SMS technology, Twilio, & Flask.
- Accumulated both the 2nd place and "Hackers Choice" prize for "The Greater Cause" use of technology.

Glassboro, New Jersey

Feb. 2017

Skills

Computer Science

LANGUAGES OR FRAMEWORKS AND SELF TAUGHT MATERIAL

- C++, C, Java, Python, JavaScript, Rust, P5, OpenGL, LibGDX, TensorFlow, Vulkan, DirectX, Swing, JavaFX, HTML
- Algorithms, Rendering, Data-Oriented-Design, Machine Learning, Pure Mathematics, Performance Computing