

Software/Electrical Engineering

Phone number | US | LinkedIn

EDUCATION AND HONORS

University

*Bachelor of Science in Electrical Engineering, Concentrations in Machine Learning and System Controls
And Digital Signal Image Processing*

school city, state

Expected Winter 2021

GPA: 3.9/4.0 | **Dean's List:** Sept. 2019 – Jun. 2020

WORK EXPERIENCE

school

school city, state

Research Intern

Mar 2020 - present

- Developed Depth Maps using Unity and other 3D modeling software for generating synthetic training set data used by autonomous vehicles
- Designed simple city simulation including pathfinding and traffic system for pedestrians and vehicles to emulate real world scenarios and environments
- Implemented 3D point cloud tool using Unity's GPU rendering language that includes animation and color gradients to help visualize depth estimation and object detection data with high FPS

PROJECTS

LabVIEW Design Project

school city, state

Lead Designer

Jan 2020 – Mar 2020

- Placed first out of seven other groups in the technical challenge for 3D drawing robot using LabVIEW to interface with MyRIO microcontroller
- Designed parts in Solidworks to laser cut or 3D print for usage in robot
- Tested and assembled DC brushless motors and other electrical components

C# Implementation of Bentley-Ottmann Line Segmentation Algorithm

Personal Project

Jun 2020 – Jul 2020

- First to implement Bentley-Ottmann Line Segmentation Algorithm in C# on Github
- Algorithm to detect line intersections in $O(n \log n)$
- Uses custom data structure to prioritize line segment nodes
- Part of bigger project to build navigation mesh pathfinding using GPU rendering to increase performance in simulations/games

Epic Seven Auto Re-roll Bot

Personal Project

Dec 2018 – Mar 2019

- Built a bot to complete mobile game, Epic Seven, tutorial approximately 3 times faster than a human would be able to
- Uses OPENCV and Python to capture android emulator and machine learning to control actions within game

3D Point Cloud Renderer

Personal Project

Jul 2020 – Sep 2020

- Render 3D point cloud data in Unity
- Uses minimal amount of memory to support animations and colors using GPU instancing and visual effects
- Supports converting xyz files to binary preprocessing to reduce load times during animations

Unity XY Graph

Personal Project

Jul 2020 – Sep 2020

- XY plot that supports custom functions, markers, and colors
- Used to help visualize polygonal data such as doubly connected edge list and Bentley-Ottmann Line Segmentation
- Supports animation and high-res image capture to get aesthetically pleasing visualizations of algorithms

ADDITIONAL INFORMATION

Technical Skills: C/C++, Java, C#, Python, Matlab, Solidworks, Verilog, Circuit design and analysis, Control Systems

Language: Conversationally Vietnamese

Organizations: IEEE, school's engineering honor society

Coursework: Linear Control Systems, Data Structures, Digital Signal Processing, Engineering Statistics, Data Networks, Circuit Analysis

Certifications: National Instruments LabVIEW Associate Developer