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Education

University of California, Riverside

Bachelor of Science, Mechanical Engineering
Minor, Computer Science

Sept 2008 - Dec 2013

GPA 3.14

GPA 3.63

Professional Experience

Geospatial Game Development, Applied Invention

June 2014-Present

c++ engine runs on top of Panda3D and uses a Redhat Mapserver for high-res terrain imagery
Maintaining and assembling Redhat Mapservers, creating customized Redhat isos
Developed a file system diagnostics website for Redhat Mapserver
Modified terrain system and UI to allow users to switch terrain layers dynamically
Rewrote water shader to fix z-fighting and to incorporate bathymetry data
Built a hotkey menu system that allows users to customize and define new hotkeys
Added numerous algorithms like a semi-realistic radar detection or a 3D network visualizer
Adding an eye tracking system to engine and implemented Kalman filter to smooth user eye data
Rapid gui development using HTML, CSS, jQuery, Sass and Grunt for JS task running
Other things such as creating camera classes, diagnostic tools, AutoHotKey scripts, demos

Part-time Full Stack/ Python Developer, FrackOptima

May 2016-Present

Improve company website that uses Flask microframework, CSS, jQuery, Jinja2, AWS
Restyled entire site and added fields that get populated from aws s3 buckets
Work with fracking software that uses Pyside, a Python binding of the GUI toolkit Qt

Personal Projects

Web Development (JavaScript, CSS, HTML, PHP)

Developing static website to showcase French Bulldogs
Built personal portfolio from scratch with custom JavaScript games

Super Mario Brothers Engine (c/c++ and SDL)

Capable of loading, saving, running 60 FPS, changing audio effects
Uses OO programming, containers, memory management, and Threading

Desktop Music Player (Java and JavaZoom)

Designed like iTunes but optimized for playlist management
Uses multithread synchronization, object serialization, regex filters, swing components

Letter Recognition Software (Matlab)

Self-guided project not influenced by any other algorithm
Capable of identifying the letters written in a picture regardless of the font size

Pacman and Minesweeper Clones (JavaScript)

Both games use fast algorithms and appropriate data structures for constant lookup time
Ghost in Pacman use Dijkstra's algorithm to find shortest path to Pacman

3D models and simulations (Matlab)

Awarded top in class for creating a racecar simulation in Matlab
Developed other models to simulate wind, gravity, jet propulsion, N-body experiments

iOS Phone Development (Objective-C and Lua)

Built multi-directional shooter using the Corona SDK for 48-hour hackaton
Created a tower defense game using Objective-C

Skills

Languages (in order of experience)

c/c++, JavaScript, Python, Java, Bash, PHP, Matlab, Objective C, Lua

Sciences (in order of experience)

Algorithms, Statics, Dynamics, Graphics, Mechatronics, Thermodynamics, Fluid Mechanics,
Computer Vision, Machine Learning