

(626) 475-6283  
Portfolio: nhapeman.com

## Nathanial Hapeman

Los Angeles, CA  
Email: nhapeman@gmail.com

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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  
Front End Development using HTML, Sass, AngularJS, Grunt, jQuery, CSS  
Other things such as writing 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