# (626) 475-6283 Nathanial Hapeman Glendora, CA 91740

# Portfolio: nhapeman.com Email: Nhapeman@gmail.com

**Objective** Seeking a Full-Time Software Development Position

**Education**

**University of California, Riverside**  *Sept 2008 - Dec 2013*  Bachelor of Science, Mechanical Engineering *GPA 3.14*

Minor, Computer Science   *GPA 3.63*

**Experience**

**Working at Applied Minds (c++, JavaScript, Python, Bash Scripting)** *June 2014-Present*

Developed a file system diagnostics website for a large map server

Created camera classes, diagnostic tools, AutoHotKey scripts, etc. for a 3D game engine

Worked with Git, Visual Studios, Red Hat, Sublime, WebStorm, Apache, VirtualBox

**Web Development (JavaScript, CSS, HTML)**  *Nov 2013-Present*

Built personal portfolio from scratch with custom JavaScript games

**Super Mario Brothers clone in (c/c++ and SDL)** *May 2013-Jan 2014*

Capable of loading, saving, running 60 FPS, changing audio effects

Uses OO programming, containers, memory management, and Threading

**Desktop Music Player (Java and JavaZoom)** *Sept 2013-Jan 2014*

Designed like iTunes but optimized for playlist management

Uses multithread synchronization, object serialization, regex filters, swing components

**Phong Illumination Model with Smooth Shading (c/c++ and openGL)**

Takes 3D triangular mesh then applies loop subdivision to create finer mesh

Can manipulate mesh by translating, rotating, adding smooth Phong shading and shadows

**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

Created a tower defense replica using Objective-C

**Sound Programming and Composing**

Composing music using FL Studio for games and for personal pleasure

Experience with JLayer, Java audio, SDL audio, Matlab audio, JavaScript audio

**Undergraduate Research on Geothermal Reservoir Modeling**

Wrote a 36 page paper discussing geothermal energy as a viable energy source

**Skills**

**Languages** (in order of experience)

c/c++, JavaScript, Java, Python, Bash Scripting, Matlab, HTML, CSS, Objective C, Lua

**Sciences**

Computer Vision, Machine Learning, Graphics, Mechatronics, Finite Element Methods, Statics,

Dynamics, Thermodynamics, Fluid Mechanics, Mass and Heat Transfer