Nick Houghton
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Software Engineer

Passionate software developer with advanced knowledge of rendering techniques and tools, 3D mathematics, game engines and hardware systems. AI, game-play and systems programmer. Multi-language developer. Proven use of software design patterns and architecture, development strategies and unit testing. Proven research experience. Proven experience with team leadership roles. Skilled in designing, developing, and maintaining software systems with a focus on building efficient and reliable products. **Areas of expertise include:**

- OpenGL
- Unreal Engine 4
- Assembly
- C++
- C#
- JavaScript
- GLSL
- 3D Mathematics
- Algorithms
- Vulkan
- Git
- Java

Projects

- **NickEngine: A Vulkan renderer**:
  - Implemented basic Vulkan renderer
  - Discovery,design and ongoing implementation.
- **Dead Earth: A first person shooter using Unity 5 and C#**:
  - Implemented AI enemies
  - Achieved blood effects with HLSL shaders
- **Unreal Development Online Course**:
  - Completed two 3D games with **UE4**: Building Escape, Battle Tank
  - Improved on combat mechanics
  - Implemented AI tank enemies
  - Designed a main menu
  - Designed battle landscapes
- **Zombie-Hunt: A first person shooter made with OpenGL and C++**:
  - Implemented AI enemies
  - Created weapon animations in *Blender*
  - Created a custom renderer
  - Created a custom .OBJ file importer

Experience

- **JibJab Studios** — Marina Del Rey, California
  Software Engineer — *May 2017 - Present*
  - Developed and maintained a render library in both OpenGL and WebGL
  - Spearheaded development and operation of a mass gif rendering system using java and Amazon Web Services (AWS)
  - Installed render library with EmberJS, React and iOS applications
  - Implemented shell scripts to automate render tasks using FFMPEG
- **Ocean Networks Canada** — Victoria B.C.
  Software Engineer — *May 2016 - Apr 2017*
  - Developed large scale oceanic data API with JavaEE
  - Improved server performance using JMeter load testing
  - Designed and developed user-facing features using Javascript, HTML5 and CSS3.
- **University of Victoria** — Victoria B.C.
  Hardware Security Fellow — *May 2015 - Dec 2016*
  - Developed a hardware trojan detection application using Java
  - Designed and implemented a protoype of a new homomorphic encryption algorithm using C++.

Education

- **University of Victoria** — Victoria B.C. Canada
  Masters of Applied Science in Computer Engineering — *May. 2015 – Dec. 2016*
- **University of Victoria** — Victoria B.C. Canada
  Bachelor of Engineering in Computer Engineering — *Sept. 2010 – Apr. 2015*