François M. Demoullin

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Education

University of British Columbia, Vancouver, Canada   **September 2013 - Present**

B.Sc., Major in Computer Science (current GPA: 4.30 on 4.33 scale)
Dean's Honour list: 2013/14 and 2014/15
Expected graduation: June 2017

University of California, Davis, CA, USA (exchange year)   **September 2015 – June 2016**

Experience

Magic Leap Inc. – Optimization Software Engineering Intern   **June 2016 – September 2016**

- Embedded software development using C++
- Implementation of Computer Vision algorithms on embedded device

UC Davis GPGPU Lab - Research Assistant   **September 2015 – Present**

- Image Processing and Parallel algorithms research as part of the GPGPU lab led by **Dr. John Owens**
- Integration into OpenGL applications and testing of **Kerry Seitz's** (PhD candidate) meta-shading pipeline using Lua.
- Co-authored "Selos – Compile-Time Staged Metaprogramming for Shader Tool Development" (publication pending)

UC Davis Networking group study - Research Assistant   **September 2015 – May 2016**

- UC Davis networking research under the supervision of **Dr. Norm Matloff**
- Implementation of multi-threaded Server using Python

Squeakshark.com – Co-founder   **December 2014 - Present**

- Launch of Squeakshark.com, a service that helps growing artists boost their social media presence
- Full-stack developer: worked on web frontend (JavaScipt, HTML, CSS, jQuery) and backend (PHP)

Computer Science Teaching Assistant   **September 2014 – January 2015**

- Computer Science class on HTML, JavaScript and UNIX
- Responsible for weekly labs and office hours

Ville de Luxembourg (City Government) – Software Engineering Intern   **July 2014**

- Web application using ZK, a Java based web framework
- Implementation of online recruitment platform

BNP Paribas (4th largest bank worldwide) – Software Architecture Intern   **June 2014**

- Studied large scale log-management solutions in banking sector
- Outcome: Significant reduction of bug detection time and increased data security

Skills

Programming languages
- Proficient in: C++, C, Java, GLSL, OpenGL
- Familiar with: Python, Ruby on Rails, Drupal7, PHP, Lua, JavaScript, HTML and CSS

Languages English, French, German, Luxembourgish and Spanish

Projects

Particle System on GPU
- Parallelized GPU implementation, supporting the rendering of up to 1 million particles
- Using my personal game engine
- Using C++, the OpenGL graphics API and GLSL as the shader language

- Source code: https://bitbucket.org/FrancoisDemoullin

Volume Renderer / Volumetric Ray Caster

- Volume visualization tool using tri-linear as well as tri-cubic interpolation methods
- Using C++, the OpenGL graphics API and GLSL as the shader language
- Presentation: http://1drv.ms/1OZrDQF
- Source code: https://bitbucket.org/FrancoisDemoullin/volumerenderer