

Matthew D. Robertson
89 Country Club Rd
Riverview, NB E1b 4Y2

226.868.3733 (cell phone)
iam@mattrobertson.ca
<http://mattrobertson.ca>

Summary of Qualifications

- Proficient with Python, C++, AngularJS, Java, C, Ubuntu, Git, and L^AT_EX. Functional knowledge of OpenGL, GLSL, SQL, PostgreSQL, Jenkins, Jira, and SVN.
- Four years experience as a core member of a small video game development team, focusing on engine design and implementation in the Object-Oriented paradigm.
- Possesses excellent problem solving, communication, interpersonal, and organizational skills developed through past work experience.

Work Experience

- **Autodesk** Montréal, QC
Maya Foundation, Software Development Co-op *September 2016 - December 2016*
 - Integrated Pixar's Universal Scene Description plug-in into Maya, allowing other teams to further make use of USD in their development.
 - Developed scripts to convert scenes from Autodesk's Hyperspace Madness into USD files, reducing load times significantly.
- **Intel Security** Waterloo, ON
Software Development Engineer *January 2016 - April 2016*
 - Resolved software problems in the Intel Security product line, including one which prevented the successful installation of the product.
 - Created and repaired Jenkins jobs to ensure the accuracy of test coverage metrics and proper deployment of builds.
- **RideCo** Waterloo, ON
Software Developer *May 2015 - August 2015*
 - Developed and simplified tools to allow administrators to quickly and easily create and visualize optimized vehicle schedules, for the efficient solving of custom vehicle routing problems.
 - Improved tools used by administrators to analyze user data in real-time.
- **Bayer Radiology and Interventional** Toronto, ON
Software Developer *May 2014 - August 2014*
 - Developed software for estimating and tracking radiation exposure in medical imaging as well as interfaces for consumption of derived data.
 - Engineered a higher performance ActionScript scatter-plot. This reduced runtime from up to eleven seconds for datasets with upwards of ten thousand points down to under three seconds.

Projects

- **Pixel Shaders and Demoscene** <https://www.shadertoy.com/user/twitchingace>
Lead Developer *June 2014 - Present*
 - Created a number of pixel shaders built on the concept of "two-triangle rendering." Scenes created entirely inside the shader.
 - Created a distance-field based ray marcher for the purpose of rendering and blending geometric three-dimensional shapes.
 - Created a basic ray tracer as a foray into the technique.

- **Terrae Rasa** <https://github.com/matthew-robertson/Terrae-Rasa>
Lead Developer *January 2012 - September 2013*
 - Worked as a lead developer and as a lead designer on a two-dimensional side-on adventure game.
 - Designed techniques which I used to procedurally generate random worlds of arbitrary size, while still ensuring the playability and enjoyability of the game world.
 - Developed an elementary physics-based particle engine for the handling of generic particle effects and projectiles.
 - Implemented a state-based AI with functionality to chase, retreat, or attack based on its environment.

Education

- **University of Waterloo** Waterloo, ON
Candidate for Bachelor of Mathematics in Computer Science. Honours Co-op *September 2013 - Present*
 - Current 3B student, graduation anticipated for 2018.
 - 72.1% cumulative average, 73.8% major average.

Awards

| | |
|--|------|
| New Brunswick Computer Science Competition 2 nd place. | 2013 |
| University of Waterloo Euclid Mathematics Competition top 20%. | 2013 |
| New Brunswick Computer Science Competition 3 rd place. | 2012 |
| University of Waterloo Canadian Computing Competition honour roll. | 2012 |