
Technical Skills

Like: visual-studio, opengl, .net, c++, java, eclipse, math, c, emacs

Experience

Programmer – Maptuit Corporation

March 2010 - Current

Responsible for the core routing algorithms used throughout Maptuit's suite of GIS software; the software is mainly tailored to long-haul trucking fleets.

Responsible for a custom geocoder (address-to-location) for use in an embedded GPS guidance system. Implemented in C, design goals included speed (<1s) and size (<4MB) constraints.

Tech Lead – (Not Public)

October 2009 - November 2009

Research Intern – Autodesk Canada

February 2009 - October 2009

Researched an original method of displaying large user interfaces quickly to aid in comprehension and initial use. This program was primarily made using OpenGL; however numerous other technologies were involved (e.g. C#, Microsoft Surface).

Conducted a user study with AutoCAD professionals and students using this original approach. A paper was presented at the ACM GI 2011 based on this research. The following video accompanied the paper submission:

<http://www.youtube.com/watch?v=CFwqF0czjbo>

Strategy Manager – Queen's Solar Vehicle Team

2003 - 2006

Lead the strategy division of the Queen's University Solar Vehicle Team for two years in preparation for and participation in the North American Solar Challenge 2005, racing from Austin, Texas to Calgary, Alberta in July 2005.

Managed a team of three in the development of new simulation software (written in Java) from existing simulation models and computer programs. Personally used the software during the race to optimize vehicle speed and operation. Software project now archived in sourceforge.net as qSolarSim. Other responsibilities included consultation and interaction with team members concerning car data estimations, overall optimization and vehicle construction.

Lab Assistant – Queen's University

May 2004 - September 2004

Organized multiple HP3497 data acquisition computers for use with a heat transfer experiment for Dr. Steve Harrison. Designed a program in LabView for control and observation of the experiment.

Also designed and built, in two weeks, a small pulse-counting circuit using a PIC microcontroller in response to a malfunctioning component in the experiment. The circuit continues to function and be operated after 5 years of continuous use.

Education

M.Sc. Computer Science – Queen's University

2006 - 2009

My thesis:

<https://qspace.library.queensu.ca/handle/1974/1817>

This is a video submitted with a paper I authored; some of its content was used in my thesis:

http://www.dailymotion.com/video/x702xc_cataninspired-interaction-methods_tech

B.Sc. Engineering – Queen's University

2002 - 2006