David Herrera

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Objective

Obtain a position as a software developer that will allow me to grow in my technical and interpersonal skills

Education

McGill University, Montreal, Quebec **2010-2015**

Bachelor of Science, Computer Science & Physics Joint Major

- Graduating in June 2015

Technical Skills

- **Object Oriented Programming:** Experience working with C++, Objective-C, Java, Python.
- **Functional Programming:** Experience working with Standard ML.
- **Web Development:** Created a variety of websites for academic and personal purposes using elements from HTML5/CSS, JavaScript, CGI, Python, jQuery, and PHP.
- **Scientific Languages:** Conducted research and analyzed data using MATLAB and Mathematica.
- **Operating Systems:** Unix based systems, complete structure of OS, C and Shell Scripting, Windows
- **Other:** Currently learning SQL, relational algebra and game development framework, libGDX.
- Strong understanding of various data structures and algorithms.

Experience

Software Developer **March 2015-Present**

Ruthazer Lab, Department of Neurology & Neurosurgery, McGill University

- Creating a multi-platform game application for android and IPhone using libGDX in Java that would allow anyone to help the Ruthazer lab digitally reconstruct neurons imaged on the microscope. The crowdsourcing of axon reconstruction by gamification is expected to immensely speed up the reconstruction process.

Research Assistant **Jan 2015-Present**

Paul Francois Lab, Department of Physics, McGill University

Paper: davidfherrerar.me/CellularDetectorPaper.pdf

- Currently creating simulations in python for a new software that aims to explain the different characteristics of T-cell binding immune response to foreign agents. Lorem ipsum dolor
- Designed model theory to fit the experimental data.
- Created evolution of the system using the Tau-leaping algorithm in Matlab and Python.

Research Assistant **August 2014-March 2015**

Paper: davidfherrerar.me/dSpidaPaper.pdf

Paul Wiseman, Department of Physics and Chemistry, McGill University

- Developed the MATLAB software theory to analyze a cluster of particles speed in terms of light intensity.
- Analyzed fluorescent microscopy images of HEK-293 cells with drug treatments LY379268 and LY341495, successfully obtaining a relationship between the diffusion state and intensity of light of the molecules.

Sales and Support Specialist **June 2011–Aug 2012**

Independent, Calgary, Alberta

- Installed OS X, Linux and Windows operating systems in MAC and PC computers
- Sales and Management of product. Repaired software related problems of Mac and PC computers.
- Managements of product.

Personal Projects

Code available at: github.com/dherre3/

- **Websites:**
  - Created a website that makes surveys using design elements from CSS and a backbone of HTML. The user login and account was handled by CGI and a combination of C code and Python code.
  - Created a Google like search engine that calculates the link distances and navigates through the McGill University website.
- **IPhone Applications:**
  - Created a card matching game in Objective-C with two game modes containing a well-organized hierarchy between the model and the view controller.
  - Coded a postfix calculator application using Objective-C.
- **Java Applications:**
  - Created two Java applet games, a ping-pong game and a tic-tac-toe interactive game.
  - Created a Java applet that teaches interactively the concept of a normal distribution.
  - Created a thread package to replace the p-threat package available in C. Made used of Semaphores and signals to implement it.

Awards:

McGill Varsity Soccer Team **August 2012-December 2014**

- Played at national level, and competed in international tournaments.
- Served as a varsity council representative during the 2013/2014 season.

Alexander Rutherford Scholarship **August 2010**

- Obtained $2500 from the government of Alberta due to excellence in academics.

Athlete of the Year and MVP Soccer **June 2010**

- Obtained the award for the best athlete in my last year of High School.
- Obtained the MVP for soccer, and played for the All-star Alberta team.