

DAVID HERRERA

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OBJECTIVE

Seeking for a computer science job that can utilize my skills, ability and knowledge to provide me with an opportunity for professional growth and satisfaction.

EDUCATION

McGill University, Montreal, Quebec

September 2010 - June 2015

- Bachelor of Science, Computer Science & Physics

SKILLS

Languages:

- Fluent in English and Spanish with excellent writing skills.

Technical:

Operating Systems:

Unix, Windows, MacOS

Programming Languages:

C, C++, Objective-C, Java, Standard ML, MatLab, Python, Shell Scripting.

Web Design:

HTML5, CSS, CGI, JQuery, JavaScript.

WORK EXPERIENCE & RESEARCH

Research Assistant

December 2014 - Present

Paul Fracois Biophysics Lab, McGill University

- 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.

Research Assistant

May 2014 - December 2014

Paul Wiseman Fluorescence Microscopy Lab, McGill University

- Conducted simulations to test and improve a new software called dSpida written in MATLAB. The software finds a relationship between the speed and the number of particles in a cluster inside a cell tagged with a fluorescent label.
- Created simulations for diffusion in 3D of particles in fluorescent images.
- Used the software to successfully characterize a mGLu3 receptor in cells tagged with fluorescent labels writing a research paper with the obtained results.

Computer Specialist/Sales

May 2011 - August 2011

Independent, Calgary, Alberta

- Installed OS X, Linux and Windows operating systems in MAC and PC computers.
- Repaired software related problems of Mac and PC computers.
- Migrated user data from old computers to new computers.
- Met costumers, presented product, and completed transactions of the product.

PROJECTS

Java/C Applications

<http://goo.gl/3BF2zr>

- Creating a multi-platform game app that would allow anyone to help the Ruthazer lab digitally reconstruct neurons that they image on the microscope. The crowdsourcing of axon reconstruction by gamification is expected to immensely speed up the reconstruction process.
- Successfully made 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 pthread package available in C. Made use of semaphores and signals to implement it.

IPhone Applications

<http://goo.gl/UrzEu9>

- Coded a card matching game with excellent synchronization, creating a well protected model from the view controller.
- Coded a postfix notation calculator app.

RELEVANT COURSEWORK

Comp 310, **Operating Systems:**

Resource allocation, dispatching, processors, access methods, job control languages, main storage management. Batch processing, multiprogramming, multiprocessing, time sharing, mutual exclusion.

Comp 360, **Algorithm Design:**

Heaps, red/black trees, network flows, greedy algorithms, dynamic programming, divide and conquer, randomized algorithms, linear Programming, NP-reductions, approximations algorithms

Comp 462, **Computational Methods in Biology:**

Models of evolution, sequence comparison, phylogenetics, gene expression and regulation, DNA sequencing, Protein structure.

Comp 330, **Theory of Computation:**

Mathematical models of computers, finite automata, Turing machines, counter machines, push-down machines, computational complexity.

Comp 302, **Language Paradigms:**

Programming language design issues, binding and scoping, parameter passing, lambda abstraction, data abstraction, type checking, inheritance, functional and logic programming.

ACTIVITIES & AWARDS

McGill Varsity Soccer Team

August 2012 - 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

Calgary, Alberta

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

Athlete of the Year & MVP Soccer

June 2010

Western Canada High School

- 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