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## Education

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### ***MSc Statistics:***

***Under supervision of Graduate Chair Dr. Tim Swartz (Co-op Option)***

***Sept 2015 – TBD***

*Simon Fraser University, Burnaby BC*

- NSERC CGS-M Award, Special Entrance Scholarship

### ***Bachelor of Mathematics Honours:***

***Computational and Applied Mathematics and Statistics (Co-op Option)***

***Sept 2010 – May 2015***

*Carleton University, Ottawa ON*

- CGPA of 10.7/12.0 (Letter Grade: A-): Dean's List 2010-2015

***Relevant Coursework:*** Machine Learning, Data Mining, Artificial Intelligence, Spatial Statistics, Time Series Analysis, Statistical Computing, Software Engineering, Web Development

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## Technologies and Skills

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- Proficient: Python, R, Git, MongoDB (NoSQL), LaTeX
  - Intermediate: Flask, HTML, CSS, UNIX, Amazon Web Services (AWS), D3.js
  - Used in Classes/Work: MATLAB, JavaScript, SQL, C, C++, Java, SAS, MINITAB, Tornado
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## Tech Work Experience

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Research & Development Co-op	MDA Ltd.	Summer 2016 – Fall 2016
Technical Services Developer	360pi	Summer 2015 – Fall 2015
Writer (Data Science)	Carleton CQADS	January 2015 – present
QA Automation Co-op	360pi	Summer 2013 – Summer 2014
QA Analyst Co-op	360pi	Summer 2012

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### ***Highlights of Work Experience***

- Wrote web crawlers to parse product information on various retailer websites
  - Worked in a Kanban system that required problem solving and multi-tasking, implementing software solutions to customer specific requests or bugs of varying priorities independently
  - Worked on crawler infrastructure; for example, implemented handling of long crawling processes that would become stale, resulting in a bottleneck in our customer workflow
  - Implemented on-demand job creation for internal QA Tool; designed new schema, proper handling of new type of jobs, created new UIs, and updated the reports display
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## Relevant Projects

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### ***Full Stack Programming Projects***

***SeeCIS (seecis.com) (Python, MongoDB, Flask, D3)***

***Sept 2013 – Now***

- SeeCIS is a web app targeted for CIS basketball coaches that I made from scratch
- Scrapes play-by-play, box scores, and player information for any available CIS season
- Cleans the play-by-play using AI algorithms that considers contextual information
- Produces new metrics using the play-by-play such as +/-, % of contributions when scoring margin is within x, % of contributions in the 4th quarter, to name a few

- Implemented system for matching misspelled names across seasons to allow career analysis
- Forum Scraper for Sentiment Analysis (Python, MongoDB, Flask)** *Feb 2015*
- Demo link available: [stevenwu.pythonanywhere.com](http://stevenwu.pythonanywhere.com)
  - Prototype of my NSERC thesis which can crawl RealGM's NBA Draft board
  - Representations of posts, threads, and users for each post in each topic stored in a database
  - Displays various summarizing data using text analytics with a web interface

### Scientific Programming Projects

#### **NHL Trades and Trust Research (R, Python, Pandas, Networkx, LaTeX)** *Oct 2015*

- Wrote software (data manipulation, variable creation, model building using log-linear models, handling overdispersion) to implement proof of concept requested by client
- Given a tight deadline of less than 10 days, delivered a written and oral presentation with strong positive feedback and a follow-up request for more work
- Negotiated my own rate and hours, working independently to complete the task after discussions with my supervisor

#### **AI Snake (Python)** *Feb 2015*

- Individual class project for artificial intelligence course that required implementation of a variant of the popular snake game, where the snake must drive itself using uninformed searches (breadth first search, depth first search) and A\* search
- Designed state space and coded implementation in Python with a command line UI, with reporting enabled for comparison between the searches
- Configurable grid dimensions, number of obstacles the snake must avoid, number of iterations before being finished, and search type

### Other Programming Projects

#### **CFL Data (Python, MongoDB)** *Feb 2015 – Mar 2015*

- Created system in Python to scrape a given season of CFL play-by-play game data, store in a database, and collect all 3<sup>rd</sup> down plays that did not end in a punt for later analysis
- Sold articles that use the codebase as a reference for tutorials on data analysis for Carleton's Centre of Quantitative Analysis and Decision Support

#### **@astro\_tweet\_bot – twitter.com/astro\_tweet\_bot (Python, Flask)** *Apr 12<sup>th</sup>-13<sup>th</sup> 2014*

- Twitter bot that reads tweets from sky-gazing enthusiasts and responds with observable sky phenomena, built and deployed live for 2014 NASA Hackathon in two days with two others
- Identified sources of useful information, tonightssky.com and spaceweather.com/flybys, developed scrapers that take the website's information depending on the user's request

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## **Communication Experience**

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Teaching Assistant (15 courses)	Carleton, SFU	Fall 2012 – present
Event Coordinator, TSSU Rep	OTTanalytics	Fall 2015 – present
Organizer	CUMC 2014	January 2015
Head of Logistics & Volunteers	Carleton University	Summer 2013 – Summer 2014
Co-op Peer Helper	Carleton University	Fall 2012 – Winter 2013
Campus Tour Guide	Carleton University	Fall 2012 – Fall 2013
Speaker (Blackjack, SportVU)	CUMC 2012, 2013	Summer 2012, Summer 2013
Tutor	Self-Employed	Summer 2008 - present