



Tech Experience

R&D Intern

MDA

Summer 2016 – Fall 2016

- Redesigned and completed REST API wrappers of image processing executables for production
- Designed and implemented a new microservice that connected an existing web portal's functionality to the REST API wrappers, for image analysts who operate on satellite data
- Extended microservices for image ingest, image processing, cataloguing and storage to accommodate dynamic requirements for integrating SAR and derivative image products
- Won one of the two MDA Scholarships, awarded to the intern showing highest performance

Research Assistant

Simon Fraser University

Fall 2015 – Summer 2016

- Created crawlers for extracting information and creating a dataset for a professor
- Approached organizations for data to use in our Big Data class STAT440, communicated requirements between professor and organizations, prepared the data for course material

Technical Services Developer

360pi

Summer 2015

- Worked in a Kanban system to independently multi-task and problem solve, implementing a variety of software solutions to customer specific requests or bugs of varying priorities
- Created crawlers for parsing product information and discovering new products from retailers
- Contributed to crawling infrastructure by implementing a solution to terminate stale crawlers

Data Science Blogger

Carleton CQADS

Winter 2015

- Created system to scrape and store CFL play-by-play and open sourced the code
- Sold articles that use the codebase as a reference for tutorials on data analysis for Carleton's CQADS (Centre of Quantitative Analysis and Decision Support)

QA Automation

360pi

Summer 2013 – Summer 2014

- Implemented on-demand jobs for internal QA Tool; designed new schema, created new UIs
- Built tools to automate and support our QA team's efforts to validate our products and data

QA Analyst

360pi

Summer 2012

- Created a Python script for generating the SKUs to manually validate for each day

Relevant Projects

Full Stack Programming Projects

SeeCIS (seecis.com) (Python, scikit-learn, MongoDB, Flask, D3.js)

Sept 2013 – Now

- SeeCIS is a web app targeted for CIS basketball coaches for delivering play-by-play derived insights
- Front-end uses D3.js for visualizations and AJAX for rendering dynamic client generated by user
- Back-end uses AI techniques and machine learning to clean play-by-play data that contains logical errors and to clean player names that are misspelled across data sources and seasons

Forum Scraper for Sentiment Analysis (Python, MongoDB, Flask)

Feb 2015

- Demo link available: stevenwu.pythonanywhere.com
- Prototype of NSERC thesis which can crawl RealGM's NBA Draft board and display text analytics

Statistical Analysis Projects

Modelling NBA Player Movement (R, PostgreSQL, LaTeX)

May 2016 – September 2016

- 15 page paper, submission under review for ASA special data science issue
- A practical, code infused guide for transforming raw NBA video data (1 million rows per game) into a model to simulate offensive player movement

NHL Trades and Trust Research (R, Python, Pandas, Networkx, LaTeX)

Oct 2015

- Wrote software (data cleaning, variable creation, model building using log-linear models, handling overdispersion) to implement proof of concept analysis 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

Hackathon Programming Projects

Receiver Entropy Visualizer (R, Shiny) for MIT Sloan Conference 2016

- Selected as one of ~40 invited participants out of more than 400 applications
- Created a Shiny app in R that analyzed video data from a football game to produce (1) heatmaps of movement for offensive receivers and (2) an entropy score to reflect unpredictability, in 6 hours

@astro_tweet_bot – twitter.com/astro_tweet_bot (Python, Flask) for NASA Hackathon 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, tonightsky.com and spaceweather.com/flybys and developed scrapers that crawl the website's information depending on the user's request

Communication Experience

Teaching Assistant (16 courses)	Carleton University, SFU	Fall 2012 – present
Event Coordinator, TSSU Rep	SFU Stats Dept.	Fall 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
Student Speaker	CUMC 2012, 2013	Summer 2012, Summer 2013
Tutor	Self-Employed	Summer 2008 - present

Education

MSc Statistics:

Supervised by Graduate Chair Dr. Tim Swartz (Co-op Option)

Sept 2015 – TBD

Simon Fraser University, Burnaby BC

- 4.07/4.33 (Letter Grade: A): NSERC CGS-M, Special Entrance Scholarship, Graduate Fellowship

Bachelor of Mathematics Honours:

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

Sept 2010 – May 2015

Carleton University, Ottawa ON

- 10.7/12.0 (Letter Grade: A-): Dean's List 2010-2015
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Technologies and Skills

- Proficient: Python, Java (Spring, Hibernate, Maven), R, Git/SVN, MongoDB, LaTeX
- Intermediate: PostgreSQL, Flask, HTML, CSS, UNIX, D3.js, jQuery
- Familiar: MATLAB, JavaScript, Amazon Web Services (AWS), C, C++, SAS, MINITAB