

# Celia Siu

<http://csiu.github.io>

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## EDUCATION

### Master of Science, Bioinformatics

Sept.2014 – May.2017

- University of British Columbia, Vancouver, BC
- Funded by CIHR and the CGS-M (see Awards section)
- Thesis project (see Projects section)

### Bachelor of Science, Biochemistry

Sept.2008 – May.2013

- University of British Columbia, Vancouver, BC
- Completed the Co-operative Education Program

## AWARDS

### 2016 🏆 CEEHRC Travel Award recipient

Awarded \$1,000 for the cost of travel to present at the ISMB 2016 conference in Orlando, Florida.

### 2016 🏆 John Bosdet Memorial Fund

### 2015 🏆 Canada Graduate Scholarship Masters Award (CGS-M) recipient

Administered by the Tri-Council Agencies (NSERC, SSHRC, CIHR), the CGS-M is a one year, non-renewable research training award valued at \$17,500 to support students who demonstrate a high standard of achievement in undergraduate and early graduate studies.

### 2014 🏆 CIHR Strategic Training in Health Research Award recipient

Awarded a two-year (\$22,000/year) funding for M.Sc. training in Bioinformatics.

### 2013 🏆 NSERC Undergraduate Student Research Award

### 2008 🏆 UBC President's Entrance Scholarship

This one-time funding of \$2,000 is to support academically qualified students who show an interest in joining the UBC community.

## PUBLICATIONS

Co-authored in:

- Siu et al. (2017) Characterization of the human thyroid epigenome. *Journal of Endocrinology*, 235(2):153-165. doi:10.1530/JOE-17-0145
- Lever et al. (2017) A collaborative filtering-based approach to biomedical knowledge discovery. *Bioinformatics*, 34(4):652-659. doi:10.1093/bioinformatics/btx613
- Wang et al. (2017) Genomic consequences of aberrant DNA repair mechanisms stratify ovarian cancer histotypes. *Nature genetics*, 49(49):856-865. doi:10.1038/ng.3849
- Wong et al. (2017) Management of PET diagnosed thyroid incidentalomas in British Columbia Canada: Critical importance of the PET report. *The American Journal of Surgery*, 213(5):950-957. doi:10.1016/j.amjsurg.2017.03.015

- McPherson et al. (2016) Divergent modes of clonal spread and intraperitoneal mixing in high-grade serous ovarian cancer. *Nature Genetics*. doi:10.1038/ng.3573
- Eirew et al. (2015) Dynamics of genomic clones in breast cancer patient xenografts at single-cell resolution. *Nature*, 518(7539):422-6. doi: 10.1038/nature13952
- Leon et al. (2012) Application and evaluation of automated methods to extract neuroanatomical connectivity statements from free text. *Bioinformatics*, 28(22):2963-70. doi: 10.1093/bioinformatics/bts542

Acknowledged in:

- Zoubarev et al. (2012) Gemma: a resource for the reuse, sharing and meta-analysis of expression profiling data. *Bioinformatics*, 28(17):2272-3. doi: 10.1093/bioinformatics/bts430

## PRESENTATIONS

Poster presentation, Intelligent Systems for Molecular Biology (ISMB) 2016 Conference July 9 & 10, 2016  
Poster presentation, BTP/IOP/GSAT 2016 Retreat March 11, 2016  
Oral presentation, Bioinformatics Research Rotation Presentation July 24, 2015  
Oral presentation, Bioinformatics Research Rotation Presentation March 27, 2015  
Oral presentation, Bioinformatics Research Rotation Presentation November 28, 2014

## PROJECTS

**100 Days of Code** Feb.2017 – Jun.2017

See my technical blog: <http://csiu.github.io/blog/tag/100daysofcode>

- Formulated models using machine learning methods from Scikit-learn to enter Kaggle competitions
- Setup and used PostgreSQL databases to gain experience with SQL and learn new technologies
- Analyzed data using Python (eg. Pandas, Matplotlib, BeautifulSoup, Nltk, Theano), R, D3, & APIs

**Characterization of the human thyroid epigenome** Sept.2015 – May.2017

Jones Lab, Michael Smith Genome Sciences Centre

- Modelled chromatin states from epigenetic features using hidden Markov models to produce 26 candidate models
- Developed a new model selection criterion
- Used Makefiles to create pipelines, organize code, and rerun analyses
- Master's Thesis:

Siu, C. (2017). Characterization of the human thyroid epigenome (T). University of British Columbia. Retrieved from <https://open.library.ubc.ca/collections/ubctheses/24/items/1.0343360>

**Literature-based knowledge discovery of biomedical text** May.2015 – Aug.2015

Jones Lab, Michael Smith Genome Sciences Centre

- Contributed to the development of text mining and machine learning approaches to prioritize therapeutics from Medline abstracts and the full-text of open access papers
- Visualized the output of MySQL database queries in R and D3

**miRNA promoter recognition with CAGE and sRNA-seq** Jan.2015 – Apr.2015

Wasserman Lab, Centre for Molecular Medicine and Therapeutics

- Modified a miRNA promoter recognition method to include a new feature in Python
- Evaluated a semi supervised statistical model trained on CAGE data, DNA sequence features, and sRNA-sequencing data

**Primer Data Extraction & Blast API** Sept.2014 – Dec.2014

Daley Lab, Centre for Heart Lung Innovation

- Used data mining to extract primers sequences from academic papers
- Made API calls to programmatically submit BLAST searches of primer sequences

## EMPLOYMENT HISTORY

**Visier Inc.** May.2017 – Present  
*Business Intelligence Consultant II* (Aug.2020 – Present)

- Guided data discovery consultation meetings with customers to educate, explore options, and gather requirements for delivering value on their business use cases
- Created internal and customer-facing assets including best practice documentations in Confluence and ServiceNow

*Sr. Data Management Engineer, Lead* (Jul.2019 – Aug.2020)

- Reviewed new customer onboarding activities and business logic customizations by assessing requirements, evaluating technical implementation design proposals, and doing code reviews
- Followed the Scrum agile framework for managing sprint planning in JIRA and leading sprint review and retrospective meetings

*Data Management Engineer II, Lead* (Jul.2018 – Jul.2019)

- Coached, mentored, and trained up junior and new staff
- Gave presentations to small and large groups during training sessions, workshops, team all hands meetings, and new hire info sessions

*Data Management Engineer I* (May.2017 – Jul.2018)

- Extracted, transformed, and loaded large amounts of customer HR data into the Visier application using Mercurial/Git and proprietary DSL

**BCCRC | The University of British Columbia** Jan.2014 – Aug.2014  
*Bioinformatics Research Assistant at the Shah Lab*

- Wrote Bash, Python, and R scripts for downstream analysis and pipeline development
- Produced figures and limited text suitable for scientific manuscripts
- Optimized analyses by leveraging parallel computing on compute clusters

**BCCRC | Provincial Health Services Authority** Sept.2013 – Dec.2013  
*Bioinformatics Research Intern at the Shah Lab*

- Ran automated analysis pipelines for data processing and data generation
- Wrote scripts to rename files, parse data, and wrap third party software
- Documented protocols, results, and comments on platforms such as the Atlassian Confluence wiki and Jira issue tracker

**NSERC Undergraduate Student Research Award** May.2013 – Aug.2013  
*Undergraduate Summer Research Student in the UBC Department of Statistics*

- Contributed to the collaborative development of an R package using Git and Github
- Validated code integrity by writing and running unit tests

**UBC Centre for High-throughput Biology** May.2012 – Aug.2012  
*System Administrator Assistant*

- Produced and updated protocols for internal use and for end users
- Setup user accounts on desktops, servers, and wikis
- Monitored, backed up, and performed various system administrative tasks using Nagios, Bacula, CFengine, and Request Tracker

**UBC Centre for High-throughput Biology** Sept.2011 – Apr.2012  
*Bioinformatics Research Assistant at the Pavlidis Lab*

- Annotated Gene Expression Omnibus datasets that were to be imported with ontology terms
- Evaluated software across multiple operating systems and reported issues on BugZilla

- Assessed the quality of microarray data for the FishManOmics project headed by the Department of Fisheries and Oceans Canada

**Biofine International Inc.**

May.2011 – Aug.2011

*Organic Chemistry Synthesis Laboratory Assistant*

- Verbally communicated with supervisors to receive instructions for the execution of experiments
- Researched, experimented, and evaluated the method of Marfey's reaction for enantiomeric resolution of amino acids
- Multitasked in coordination between executing experiments, keeping records, restocking supplies, and cleaning glassware

**A&W Food Services of Canada**

July.2007 – Oct.2010

*Cashier*

- Provided excellent customer service by responding in a timely manner, listening to what the customer has to say, and keeping an upbeat positive attitude
- Took initiative to find extra tasks when scheduled duties were completed

**Pacific National Exhibition**

Fair time

*Concessions Attendant at Triple-O's in August 2006, 2007, 2008, and 2009*

- Maintained high standards of customer service during high-volume, fast-paced operations
- Handled currency and credit transactions quickly and accurately

**VOLUNTEER EXPERIENCE**

*Conference Volunteer, VR/AR Global Summit*

Sept.2018

- Greeted guests/speakers/exhibitors, provided directions, and made sure things go according to plan

*Judge, Technovation Challenge*

May.2018

- Inspired the next generation of innovators by motivating girls ages 10-18 to learn and improve their skills by providing constructive feedback to continue to develop their product

*Event Organizer, Hackseq: <https://www.hackseq.com>*

Oct.2017

- Organized a genomics hackathon to bring individuals with diverse backgrounds together to collaborate in person and online on scientific questions and problems in genomics
- Authored a Medium article to journal the event (<https://medium.com/@celiassiu/hackseq17-661060a64bb1>)

*Helper, Software Carpentry workshop*

Oct.2016 & Feb.2017

- Troubleshoot and helped students learn Git, GitHub, Bash, Python, and Jupyter Notebook

*Wayfinder & Healthy Heart Resource Centre Clerk, St. Paul's Hospital*

Feb.2013 – Aug.2013

- Approached, greeted, and helped patients and visitors find their way
- Welcomed and provided information and assistance to visitors of the resource centre