

# Cait Harrigan, MSc.

cait.harrigan@mail.utoronto.ca | View this CV online at [caitharrigan.ca/cv](http://caitharrigan.ca/cv)

I am a graduate student at the University of Toronto supervised by [Quaid Morris](#) and [Kieran Campbell](#), and a graduate researcher at the [Vector Institute](#). I did my undergraduate studies at the University of Toronto, in Computational Biology and Statistics. My thesis work pertains to cancer genomics, and modelling the evolutionary constraints that underlie how mutation events occur in DNA. I'm passionate about open science, and promoting great mentorship in the sciences.

## MEMBERSHIPS & AFFILIATIONS

<b>Doctoral Fellow</b> Data Science Institute, University of Toronto	Jul 2022 — present
<b>Graduate Researcher</b> Ontario Institute for Cancer Research	May 2020 — present
<b>Graduate Researcher</b> Vector Institute, Toronto, Canada	Sep 2019 — present

## EDUCATION

<b>PhD in Computer Science</b> University of Toronto	Jan 2021 — present
<b>MSc in Computer Science</b> University of Toronto	Sep 2019 — Mar 2021
<b>Honours BSc. Awarded with distinction</b> University of Toronto	Sep 2015 — Jun 2019

## WORK EXPERIENCE

<b>Visiting Graduate Researcher</b> Memorial Sloan Kettering Cancer Center	May 2021 — Sep 2021
<b>Undergraduate Research Assistant</b> Terrence Donnelly Centre for Cellular and Biomolecular Genetics	Sep 2018 — May 2019
<b>Undergraduate Research Assistant</b> SickKids The Hospital for Sick Children	May 2017 — Sep 2017
<b>Intern</b> Eviviz Vancouver	May 2016 — Sep 2016

## PUBLICATIONS

1. Agata A. Bielska, Caitlin F. Harrigan, Yeon Ju Kyung, Quaid Morris, Wilhelm Palm, and Craig B. Thompson. “Activating mTOR mutations are detrimental in nutrient-poor conditions”. Eng. In: *Cancer Research* (Jul. 2022).
2. Caitlin Timmons, Quaid Morris, and **Caitlin F Harrigan**. “[Regional Mutational Signature Activities in Cancer Genomes](#)”. In: *bioRxiv [preprint]* (Jan. 2022).
3. **Caitlin F Harrigan**, Gabriella Morgenshtern, Anna Goldenberg, and Fanny Chevalier. “[Considerations for Visualizing Uncertainty in Clinical Machine Learning Models](#)”. Workshop: Realizing AI in Healthcare: Challenges Appearing in the Wild, CHI 2021 Online Virtual Conference (originally Yokohama, Japan), May. 2021.
4. **Caitlin F Harrigan**, Yulia Rubanova, Quaid Morris, and Alina Selega. “[TrackSigFreq: subclonal reconstructions based on mutation signatures and allele frequencies](#)”. In: *Pacific Symposium on Biocomputing* 25 (2020), pp. 238-249.
5. Yulia Rubanova, Ruian Shi, **Caitlin F Harrigan**, Roujia Li, Jeff Wintersinger, Nil Sahin, Amit Deshwar, and Quaid Morris. “[Reconstructing evolutionary trajectories of mutation signature activities in cancer using TrackSig](#)”. In: *Nature Communications* 11.1 (Feb. 2020), pp. 1-12.

TALKS & POSTERS

<b>Dirichlet Allocation of Mutations Captures the Action of DNA Damage and Misrepair Processes</b> Intelligent Systems for Molecular Biology 2022 Poster	Jul 2022
<b>DAMUTA: Dirichlet allocation of mutations as a function of both damage and DNA repair</b> Cold Spring Harbour Laboratory Meeting: Genome Informatics Oral Presentation	Nov 2021
<b>Tandem Signatures of DNA Damage and Misrepair in Cancer</b> Computing Research Association's Grad Cohort for Women Poster	Apr 2021
<b>Undergraduate research opportunities: how to find them and make them work for you</b> Invited by the Bioinformatics and Computational Biology Student Union, University of Toronto Talk	Feb 2020
<b>TrackSigFreq: subclonal reconstructions based on mutation signatures and allele frequencies</b> Pacific Symposium on Biocomputing (PSB) 2020 Oral Presentation, Poster	Jan 2020
<b>How to hack your degree</b> Invited by the Computer Science Student Union, University of Toronto Talk	May 2019

GRANTS & AWARDS

<b>NSERC Postgraduate Scholarship - Doctoral</b>	Sep 2022 — present
<b>Doctoral Student Fellowship Award</b>	Sep 2022 — present
<b>Queen Elizabeth II Graduate Scholarship in Science &amp; Technology</b>	Jul 2022
<b>Ontario Graduate Scholarship</b>	Sep 2021 — Sep 2022
<b>ACM SIGHPC Computational &amp; Data Science Fellowship</b>	Jul 2020 — Jul 2022
<b>JXTX foundation Genome Informatics Scholarship</b>	Aug 2021
<b>General Motors Women in Science and Mathematics Award</b>	Sep 2020
<b>NIH Conference Travel Fellowship</b>	Nov 2019
<b>The Audrey Taylor Award</b>	Jul 2017

SERVICE

<b>Program committee member</b> Machine Learning in Computational Biology (MLCB) 2019	Nov 2019
<b>Program committee member</b> Pacific Symposium on Biocomputing (PSB) 2020	Oct 2019

TEACHING

*Unless otherwise noted, school is University of Toronto*

<b>JSC370: Data Science II</b>	Jan 2022 — May 2022
<b>PRISM: Preparation for Research through Immersion, Skills, and Mentorship</b> Department of Computer Science, University of Toronto	Jan 2022 — May 2022
<b>CSC197: What, Who, How: Privacy in the Age of Big Data Collection</b>	Sep 2021 — Dec 2021
<b>STA4273: Minimizing Expectations</b>	Jan 2021 — May 2021
<b>CSC197: What, Who, How: Privacy in the Age of Big Data Collection</b>	Sep 2020 — Dec 2020
<b>JSC270: Data Science I</b>	Jan 2020 — May 2020

<b>Curriculum design and workshop series facilitator: “Environmental &amp; Life Sciences”</b> STEMHub Foundation	Jan 2020
<b>Curriculum design and workshop facilitator: “R for bioinformatics”</b> Global Society for Genetics and Genome Biology	Jan 2020
<b>CSC373: Algorithm Design, Analysis &amp; Complexity</b>	Sep 2019 — Dec 2019
MENTORSHIP	
<b>Mentor</b> ProjectX machine learning research competition	Sep 2020 — present
<b>Mentor</b> Statistical Science Alumni Mentorship	Oct 2021 — May 2022
<b>Mentor</b> Her Code Camp, Toronto	Aug 2020 — Aug 2021
<b>Mentor</b> Mentorship Program, Department of Statistics, University of Toronto	Oct 2018 — May 2019
<b>Mentor</b> SPROUT Peer Mentorship Program, New College, University of Toronto	Sep 2016 — May 2019
EVENT ORGANIZATION	
<b>Organizer</b> Graduate Application Assistance Program, Department of Computer Science, University of Toronto	Sep 2021 — present
<b>Event chair and host: program information session</b> Bioinformatics and Computational Biology Student Union, University of Toronto	Jun 2017 — Jun 2019
<b>Event chair: BioHacks</b> Bioinformatics and Computational Biology Hackathon	Mar 2018
VOLUNTEERING	
<b>Project Manager</b> STEMHub Foundation	Oct 2020 — May 2021
<b>Founder and treasurer</b> Bioinformatics and Computational Biology Student Union, University of Toronto	May 2018 — May 2019