

Siddharth Reed

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Education

Master of Science - Computational Biology

CARNEGIE MELLON UNIVERSITY

- Relevant Coursework: Algorithms, Statistics, Molecular Biology

Pittsburgh, PA

2020 - Present

Honours Bachelor of Science - Molecular Biology & Genetics Co-op

MCMASTER UNIVERSITY

- Relevant Coursework: Software Development, Bioinformatics, Microbial Genetics

Hamilton, ON

2015 - 2020

Experience

Hoffman Lab, University Of Toronto

RESEARCH ASSISTANT CO-OP ([LAB SITE](#))

- Worked on trying comparing transcriptomic data between publicly available placental, cancer and “normal” tissues
- Working to trouble shoot data analysis and cleaning, while preparing weekly progress reports in an online notebook
- Learning about the application of linear models to differential expression analysis and dealing with batch effects

May 2019 - Aug. 2019

Adapsyn, McMaster University

DATA SCIENCE CO-OP ([GITHUB](#))

- Worked on many different problems surrounding natural products discovery
- Used statistics and statistical learning techniques to address help increase the rate of discovery of natural products
- Communicated effectively with chemists and microbiologists to address their problems from a computational perspective

Jan. 2018 - Aug. 2018

Golding Lab, McMaster University

RESEARCH ASSISTANT ([GITHUB](#))

- Received an NSERC USRA to work over the summer, currently continuing as a volunteer to finish the project
- Building a pipeline to help analyze horizontal gene transfer rates for bacteria with and without CRISPR-Cas systems
- Working with DNA and protein sequence assemblies in GenBank and Fasta formats

May 2017-Aug. 2017 (Paid)

Sep. 2017-Dec. 2017 (Volunteer)

Extracurriculars

Golding Lab, McMaster University

UNDERGRADUATE THESIS STUDENT ([GITHUB](#))

- Working on studying the relationship between bacterial horizontal gene transfer rates and CRISPR-Cas systems
- Building and end-to-end pipeline to download, process, analyze and visualize public genomic data
- Using methods in network theory and network statistics to reach conclusions about biological phenomena

Sep. 2018 - April 2019

Dry Lab, McMaster iGEM Team

MEMBER ([GITHUB](#))

- Implementing a genetic algorithm and neural network to simulate SELEX sequence optimization *in silico*
- Working collaboratively with a team to build the project, manage documentation and version control using git
- Updating and explaining the computational aspects of the project to other members and the public

May 2017 - Present

Frontier College

VOLUNTEER TUTOR

- Drop in tutoring for high school students, mostly involving math and biology.
- Going over concepts thoroughly, helping student understand difficult concepts.

Sep. 2015 - April 2017

Honours & Awards

2017 **Recipient**, NSERC Undergraduate Student Research Award

2016/17 **Recipient**, McMaster Dean's Honor List

2015 **Recipient**, McMaster Undergraduate Entrance Award

Skills

Languages English, French

Research Literature Review, Data Mining, Data Analysis, Data Visualization, Experimental Design

Programming Proficient: Python, Bash, Vim, Git, LaTeX, R

Familiar: goLang, Matlab, Perl, Java, Cluster Computing (slurm, sungrid)