Siddharth **Reed**

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Education

Master of Science - Computational Biology
Pittsburgh, PA

Carnegie Mellon University
2020 - Present

- Relevant Coursework: Algorithims, Statistics, Molecular Biology

Honours Bachelor of Science - Molecular Biology & Genetics Co-op
Hamilton, ON

McMaster University
2015 - 2020)

- Relevant Coursework: Software Development, Bioinformatics, Microbial Genetics

Experience

Hoffman Lab, University Of Toronto
May 2019 - Aug. 2019

Research Assistant Co-op (GitHub Link)

- 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

Adapsyn, McMaster University
Jan. 2018 - Aug. 2018

Data Science Co-op (GitHub Link)

- 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 thier problems them from a computational perspective

Golding Lab, McMaster University
May 2017-Aug. 2017 (Paid)

Research Assistant (GitHub Link)
Sep. 2017-Dec. 2017 (Volunteer)

- 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

Extracurriculars

Golding Lab, McMaster University
Sep. 2018 - April 2019

Undergraduate Thesis Student (GitHub Link)

- 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

Dry Lab, McMaster iGEM Team
Member (GitHub Link)
May 2017 - Present

- 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

Frontier College
Volunteer Tutor
Sep. 2015 - April 2017

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

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 Visulization, Experimental Design

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

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