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Derek Host

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Education

Ph.D. Student in Systems Biology and Bioinformatics

July 2023 - Current

Case Western Reserve University

Main courses: Machine Learning, Systems Biology, Bioinformatics.

Bachelor of Bioinformatics and Computational Biology

September 2019 - May 2023

Computer Science Minor

University at Buffalo

GPA: 3.5

Main courses: Computer Science, Microbiology, Chemistry, Biochemistry, and Computational Biology.

Experience

Ph.D. Student

July 2023 - Current

Case Western Reserve University

Drumm Lab

- Working with Dr. Mitchell Drumm and his research group to further cystic fibrosis research with a particular focus on the gastrointestinal (GI) tract.
- Possess a keen interest in spatial transcriptomics, single-cell RNA sequencing, and bulk RNA sequencing techniques
- Currently developing an F31 for submission on altered glycolysis that we observe in the small intestine in the cystic fibrosis small intestine.

Bioinformatics Researcher

May 2022 - Current

University at Buffalo

Samudrala Lab

- Work with Dr. Ram Samudrala and his research group to utilize the Computational Analysis for Novel Drug Opportunities platform (CANDO) to further bioinformatics research with an emphasis on drug repurposing.
- Develop a pipeline within CANDO to categorize unknown compounds into appropriate toxicity classifications such as cardiotoxicity or hepatotoxicity with the goal of improving the drug discovery process.
- Utilize compound-protein interactions to facilitate these toxicity classification predictions.

Teaching Assistant for Discrete Mathematics

Sep 2022 – May 2023

University at Buffalo

- Personally lead office hours as well as a recitation for students.
- Graded class assignments such as homework and tests.
- Helped students understand the complex material as well as answer questions through email and piazza.

Awards

- T15 recipient for summer research 2022
- R25 recipient for summer research 2023

Skills

Programming

Python, Scala, R

Math

Calculus, Linear Algebra, Statistics

Personal Skills

Problem Solving, Leadership, Multi-Tasking

Other

Github, Systems Administration, Machine Learning, Cell Culture