Curriculum Vitae

Name Guangyuan(Frank) Li
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Personal Statement

I am currently a third-year Ph.D. student majoring in biomedical informatics at Cincinnati Children's Hospital Medical Center (CCHMC). My Ph.D. training focuses on developing novel computational tools and algorithms in the context of single-cell multimodal data and alternative splicing in cancers. Before joining the graduate school, I obtained my Bachelor's degree in pure biology and got involved in a cancer immunotherapy preclinical study when conducting my undergraduate internship at Beijing Genomics Institute (BGI). My end goal is to combine both my computational training with my cancer biology enthusiasms to facilitate the discoveries of improved cancer therapy.

Skill Sets

1. *Machine Learning (Deep Learning) and Bayesian Statistics*. [Publication: DeepImmuno]
2. *Single-Cell Multimodal analysis (scRNA-Seq, CITE-Seq, scATAC-Seq, Multiome, TEA-Seq, Genotyping, Epigenetics).* [Publication: scTriangulate]
3. *Neoantigen based Novel Cancer Immunotherapy* [Publication: SNAF (Under Review)]
4. *Web development.* [DeepImmuno web app]
5. *Proficient Python programmer.* [Python Tutorials authored by me]
6. *Quick Learner.*

Education

08/2019 - present PhD student, Division of Biomedical Informatics
Cincinnati Children's Hospital Medical Center, United States
Laboratory of Professor Nathan Salomonis, PhD

09/2018 - 04/2019 Exchange Student, Biodesign Institute
Arizona State Univerisity, United States
Laboratory of Professor Wei Liu, PhD

09/2015 - 06/2019 Bachelor of Science, Division of Life Science
Wuhan University, China

Research Experience

08/2019 - present Laboratory of Professor Nathan Salomonis, Ph.D. (CCHMC), Developing computational methods in single-cell genomics and alternative splicing data

09/2018 - 04/2019 Laboratory of Professor Wei Liu, PhD (Arizona State University), Solving Crystal structures of GPCR-G complex

03/2018 - 06/2018 BGI Research, Novel Cancer immunotherapy and preclinical trials

11/2017 - 11/2018 International Genetically Engineered Machine (IGEM) competition (Wuhan University), Synthetic Biology, an engineered bacteria to clean wastewater

Publication

1. **Li, Guangyuan***, Balaji Iyer, V. B. Surya Prasath, Yizhao Ni, and Nathan Salomonis. 2021. “DeepImmuno: Deep Learning-Empowered Prediction and Generation of Immunogenic Peptides for T-Cell Immunity.” ***Briefings in Bioinformatics***, May. https://doi.org/10.1093/bib/bbab160.

2. **Li, Guangyuan***, Baobao Song, H. L. Grimes, V. B. Surya Prasath, and Nathan Salomonis. 2021. “scTriangulate: Decision-Level Integration of Multimodal Single-Cell Data.” ***bioRxiv***. https://doi.org/10.1101/2021.10.16.464640.