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 novel computational algorithms and pipeline development in single-cell genomics and cancer transcriptome. Before joining the graduate school, I obtained my Bachelor's degree in 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 enthusiasm to facilitate the discoveries of improved cancer therapy.

Skill Sets

1. *Deep Learning (Pytorch, Tensorflow, Keras) and probabilistic modeling. [Paper, Code]*
2. *Single-Cell Multimodal analysis (scRNA-Seq, CITE-Seq, scATAC-Seq, Multiome, TEA-Seq, Genotyping, Epigenetics, TCR, Spatial). [Paper, Code]*
3. *Neoantigen pipeline development, Immune Repertoire, Cancer Immunotherapy [Code]*
4. *Web development (HTML, CSS, JavaScript, Flask, Dash, MySQL). [Demo, Code]*
5. *Python, Linux, R, Matlab, C, Data Visualization. [Tutorials authored by me, Code]*
6. *Code Documentation [Example]*
7. *Docker, Singularity [Example]*
8. *Quick and continual 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 University, 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, Ph.D. (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. **<u>Li, Guangyuan*</u>**, 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***, 22 (6).
    https://doi.org/10.1093/bib/bbab160.

2. **<u>Li, Guangyuan*</u>**, 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.

3. Jin, Kang*, Daniel Schnell, **<u>Guangyuan Li</u>**, Nathan Salomonis, V. B. Surya Prasath,
    Rhonda Szczesniak, and Bruce J. Aronow. 2022 "CellDrift: Inferring Perturbation
    Responses in Temporally-Sampled Single Cell Data." ***bioRxiv.***
    https://doi.org/10.1101/2022.04.13.488194.