Curriculum Vitae

Name Guangyuan(Frank) Li
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Skill Sets

1. *Deep Learning (Pytorch, Tensorflow, Keras) and probabilistic modeling. [Paper, Code]*
2. *Single-Cell Multimodal analysis (scRNA-Seq, CITE-Seq, scATAC-Seq, TCR, Spatial). [Paper, Code]*
3. *Neoantigen pipeline, Immune Repertoire, Cancer Immunotherapy [Poster, Code]*
4. *Gene Regulatory Network, Splicing Regulatory Network [Poster]*
5. *Web development (HTML, CSS, JavaScript, Flask, Dash, MySQL). [Demo1, Demo2, Code1, Code2]*
6. *Python, Linux, R, Matlab, C, Data Visualization. [Tutorials authored by me, Code]*
7. *Code Documentation [Example1, Example2]*
8. *Docker, Singularity [Example]*
9. *Quick and continual Learner.*

Education

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

09/2018 - 04/2019 Exchange Student, Biodesign Institute
Arizona State University, United States

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

Working Experience

05/2022 - 08/2022 Bioinformatics Intern, Sanofi, Cambridge, MA, United States

- Evaluating spatial deconvolution methods on 10x Visium data to guide the drug target selection and validation
- Developing standardized spatial analysis framework on AWS server to support bench scientists analysis

03/2017 - 06/2017 Research Intern, Beijing Genome Institute (BGI), Shenzhen, China

- Participating cancer vaccine development using in-vitro T cell assays
- Analyzing single-cell data to generate novel hypothesis in tumorigenesis

Publication

1. **Guangyuan Li***, Balaji Iyer, V.B. Surya Prasath, YiZhao Ni, 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. **Guangyuan Li***, Baobao Song, Harinder Singh, V.B. Surya Prasath, H. Leighton Grimes, Nathan Salomonis. 2022. "scTriangulate: a Game-Theory Based Framework for Optimal Solutions for Uni- and Multimodal Single-Cell Data." *bioRxiv*. https://doi.org/10.1101/2021.10.16.464640

3. **Guangyuan Li***, Nathan Salomonis. 2022. "SNAF: Accurate and Compatiable Computational Framework for Identifying Splicing Derived Neoantigens." *Cancer Research* 82 (12_Supplemental). https://doi.org/10.1158/1538-7445.AM2022-1898

4. **Guangyuan Li***, Amir Bayegan, Joon Sang Lee, Donald Jackson, Jack Pollard. 2022. "Evaluating diverse deconvolution methods for tumor spatial transcriptomic datasets." *Journal for ImmunoTherapy of Cancer* 2022;10 https://doi.org/10.1136/jitc-2022-SITC2022.0926

5. Kang Jin, Daniel Schnell, **Guangyuan Li**, Nathan Salomonis, V.B. Surya Prasath, Rhonda Szczesniak, Bruce J. Aronow. "CellDrift: Inferring Perturbation Responses in Temporally-Sampled Single Cell Data." *Briefing in Bioinformatics*. https://doi.org/10.1093/bib/bbac324

Conference Presentation

1. **Guangyuan Li**, Nathan Salomonis. scTriangulate: Decision-Level Integration of Multimodal Single-Cell Data. Oral presentation at ***Chan Zuckerberg Initiative (CZI) Single Cell Annual Meeting***; 2021 Oct 16th; Zoom

2. **Guangyuan Li**, Matthew Weirauch, Emily Miraldi, Nathan Salomonis. Context-specific splicing regulatory network inference from large-scale alternative splicing data. Poster presentation at ***Cold Spring Harbor Laboratory (CSHL) System Biology Conference***; 2021 Mar 9-12th; New York (United States)

3. **Guangyuan Li**, Nathan Salomonis, *SNAF: Accurate and compatible computational framework for identifying splicing derived neoantigens.* Poster presentation at ***American Association of Cancer Research (AACR) Annual Meeting***; 2022 April 8-13th; New Orleans (United States)