Curriculum Vitae

Name Guangyuan(Frank) Li
Position Postdoctoral Fellow, NYU Grossman School of Medicine
Email liguangyuan798@gmail.com
Profile Blog, GitHub, Linkedin

Skill Sets

1. *Deep Learning (Pytorch, Tensorflow, Keras) and probabilistic modeling (pyMC, pyro)*
2. *NGS analysis: DNA, RNA, (immuno)proteomics, spatial, imaging, TCR, single-cell*
3. *Target Discovery, Neoantigen pipeline, mRNA optimization*
4. *Gene/Splicing Regulatory Network*
5. *Python, Linux, R, Matlab, C*
6. *Web development (HTML, CSS, JavaScript, Flask, Dash, MySQL) [Example]*
7. *Docker, Singularity, CWL, cloud computing (AWS, GCP) [Example]*
8. *Code Documentation [Example]*
9. *Quick and continual Learner.*

Education

08/2019 - 08/2023 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

09/2023 - Present Postdoctoral Fellow, New York University, New York, NY, United States

- Building a comprehensive target discovery pipeline for developing peptide-centric CAR-T therapy (PC-CAR)

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

Patent Applications

1. Nathan Salomonis, **Guangyuan Li**. "Identification of multiple targets for immunotherapy in melanoma using splicing-derived neoantigens". *PCT Patent Application No. PCT/US2024/44819*

2. Mark Yarmarkovich, Zachary Harpaz, **Guangyuan Li**, Michele Palamenghi. "Systems, methods and computer-accessible medium for identifying target pairs for CAR-T therapy." *U.S. Patent Application 18/940,364*
3. Mark Yarmarkovich, **Guangyuan Li**. "Methods and compositions for use of tumor specific antigens in adoptive immunotherapy." *A PCT Patent Application has been filed and is pending*

First-Author Publications

1. **Guangyuan Li*** , Omar Uriel Guzman-Bringas, Aman Sharma, Zachary Harpaz, Ethan Tardio, Aswin Natarajan, Xinya Liu, Darren Taylor, Rachel Yamin, Maxence Dellacherie, Michelle Krogsgaard, Conrad Russell Cruz, Mark Yarmarkovich "A pan-cancer atlas of T cell targets", *BioRxiv*. 2025. https://www.biorxiv.org/content/10.1101/2025.01.22.634237v1

2. **Guangyuan Li***, Shweta Mahajan*, Siyuan Ma, Erin D. Jeffery, Xuan Zhang, Anukana Bhattacharjee, Meenakshi Venkatashubramanian et al. "Splicing Neoantigen Discovery with SNAF Reveals Shared Targets for Cancer Immunotherapy." *Science Translational Medicine*. 2024. https://doi.org/10.1126/scitranslmed.ade2886.

3. **Guangyuan Li*,** Daniel Schnell, Anukana Bhattacharjee, Mark Yarmarkovich, Nathan Salomonis. "Quantifying tumor specificity using Bayesian probabilistic modeling for drug and immunotherapeutic target discovery." *Cell Reports Methods.* 2024. https://doi.org/10.1016/j.crmeth.2024.100900

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

5. **Guangyuan Li***, Baobao Song, Harinder Singh, V.B. Surya Prasath, H. Leighton Grimes, Nathan Salomonis. "Decision level integration of unimodal and multimodal single cell data with scTriangulate" *Nature Communications*. 2023. https://doi.org/10.1038/s41467-023-36016-y

6. **Guangyuan Li***, Nathan Salomonis. "RNA Isoforms as Broad Targets for Cancer Immunotherapy." *DNA and Cell Biology.* 2024. https://www.liebertpub.com/doi/10.1089/dna.2024.0108

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

Collaborative Publications

8. Minzhe Guo, Michael P. Morley, Cheng Jiang, Yixin Wu, **Guangyuan Li**, Yina Du, Shuyang Zhao et al. "Guided Construction of Single Cell Reference for Human and Mouse Lung." *Nature Communications*. 2023. https://www.nature.com/articles/s41467-023-40173-5

9. 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*. 2022. https://doi.org/10.1093/bib/bbac324

10. Zhang Xuan, Baobao Song, Maximillian J. Carlino, **Guangyuan Li**, Kyle Ferchen, Mi Chen, Evrett N. Thompson, et al. “An Immunophenotype-Coupled Transcriptomic Atlas of Human Hematopoietic Progenitors.” *Nature Immunology*. 2024. https://www.nature.com/articles/s41590-024-01782-4

11. L. Lambourne, K. Mattioli, C. Santoso, G. Sheynkman, S. Inukai, B. Kaundal, A. Berenson, K. Spirohn-Fitzgerald, A. Bhattacharjee, E. Rothman, S. Shrestha, F. Laval, Z. Yang, D. Bisht, J. A. Sewell, **G. Li**, A. Prasad, S. Phanor, R. Lane, D. M. Campbell, T. Hunt, D. Balcha, M. Gebbia, J.-C. Twizere, T. Hao, A. Frankish, J. A. Riback, N. Salomonis, M. A. Calderwood, D. E. Hill, N. Sahni, M. Vidal, M. L. Bulyk, J. I. Fuxman Bass “Widespread variation in molecular interactions and regulatory properties among transcription factor isoforms”. *Molecular Cell*, 2025. https://doi.org/10.1016/j.molcel.2025.03.004