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, Keras), Machine Learning, Probabilistic Modeling (pyMC, pyro)*
2. *NGS bioinformatics: WGS/WES, RNA (bulk and single-cell), Ribo-Seq, (immuno)proteomics, BCR/TCR, ChIP-Seq, ATAC-Seq, CITE-Seq, spatial, imaging*
3. *Python, Linux (HPC), R, Matlab, C*
4. *Web development (HTML, CSS, JavaScript, Flask, Dash, MySQL) [Example]*
5. *Containerization (Docker, Singularity), Workflow (CWL), Cloud Computing (AWS, GCP), Version Control (GitHub) [Example1] [Example2]*
6. *Code Documentation [Example]*
7. *Molecular cloning, Cell assays, CAR-T, TCR-T, BiTE therapies*
8. *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. Mark Yarmarkovich, **Guangyuan Li**. "Methods and compositions for use of tumor specific antigens in adoptive immunotherapy." *PCT Patent Application No. PCT/US2025/019387* https://patentscope.wipo.int/search/en/WO2025193710

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 No. 18/940,364* https://patents.google.com/patent/US20250218563A1
3. Nathan Salomonis, **Guangyuan Li**. “Identification of multiple targets for immunotherapy in melanoma using splicing-derived neoantigens”. *PCT Patent Application No. PCT/US2024/044819* https://patentscope.wipo.int/search/en/WO2025050009

First-Author Publications

1. **Guangyuan Li*** , Omar Uriel Guzman-Bringas, Aman Sharma, Maxence Dellacherie, Palak Sekhri, Rachel Yamin, Dejan Stepec, Maximilien Burq, Ioana Clotea, Ethan Tardio, Aswin Natarajan, Zachary Harpaz, Xinya Liu, David Requena, Darren Taylor, Beatrix Ueberheide, Michelle Krogsgaard, Conrad Russell Cruz, Peter Cimermancic, Mark Yarmarkovich “A pan-cancer atlas of therapeutic T cell targets”, *BioRxiv*. 2025. https://www.biorxiv.org/content/10.1101/2025.01.22.634237v2

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. Kyle Ferchen, Xuan Zhang, Kairavee Thakkar, **Guangyuan Li**, David Bernardicius, Sidharth Sen, Priyanka Rawat, et al. “A unified multimodal single-cell framework reveals

a discrete state model of hematopoiesis in mice." *Nature Immunology*. 2025 https://www.nature.com/articles/s41590-025-02307-3

9. 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

10. 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

11. 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

12. Luke Lambourne, Kaia Mattioli, Clarissa Santoso, Gloria Sheynkman, Sachi Inukai, Babita Kaundal, Anna Berenson, Kerstin Spirohn-Fitzgerald, Anukana Bhattacharjee, Elisabeth Rothman, Shaleen Shrestha, Florent Laval, Brent S Carroll, Stephen P Plassmeyer, Ryan J Emenecker, Zhipeng Yang, Deepa Bisht, Jared A Sewell, **Guangyuan Li**, Anisa Prasad, Sabrina Phanor et al. "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