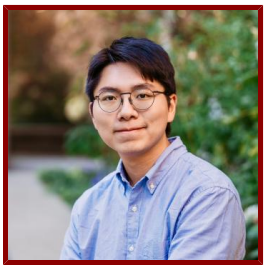
Stanford



Xiangmeng (Shawn) Cai

Ph.D. Student in Bioengineering, admitted Summer 2022

Bio

BIO

I'm a Ph.D. student in bioengineering. My research interests include using engineering and computational methods to probe, measure, perturb, and predict chromosome organization and epigenetic dynamics.

EDUCATION AND CERTIFICATIONS

- Master of Science, Stanford University , CS-MS (2022)
- Bachelor of Science, Stanford University , BIOE-BS (2022)

Publications

PUBLICATIONS

- **Systematic mapping of enhancers, silencers, and topological elements with prime editing deletion screens.** *bioRxiv : the preprint server for biology*
  Cai, X. S., Montgomery, M. T., Nagano, M., Nisal, A., Gu, Z., Chen, Z., Obbad, K., Rastogi, R., Tan, Y., Zeng, T., Sheth, M. U., Xia, C., Chiang, et al
  2026
- **Quantitative changes in 3D contact predict changes in enhancer-promoter regulation upon cohesin depletion.** *Nature communications*
  Guckelberger, P., Doughty, B. R., Rao, S. S., Munson, G., Tan, Y., Cai, X. S., Fulco, C. P., Nasser, J., Bergman, D. T., Ray, J., Jagoda, E., Gschwind, A. R., Sheth, et al
  2026; 17 (1)
- **Common Coronary Artery Disease Risk Variants in Endothelial Regulatory Elements Modulate Tetraspanin 14 Expression and Notch Signaling.** *Arteriosclerosis, thrombosis, and vascular biology*
  Lee-Kim, V. S., Schnitzler, G. R., Fang, S., Mardani-Kamali, N., Cai, X. S., Cui, R., Barry, A. E., Zandavi, M., Yoo, H. J., Kant, S., Mahajan, R., Rao, S. S., Aiden, et al
  2026
- **The IGVF catalog-from genetic variation to function.** *Nucleic acids research*
  Li, D., Liu, S., Assis, P. R., Li, M., Dong, S., Whaling, I., Jolanki, O., Kagda, M., Zhang, W., Macias-Velasco, J. F., Liu, T., Cody, S., Antonacci-Fulton, et al
  2025
- **High-throughput mapping of modular regulatory domains in human RNA-binding proteins.** *Cell systems*
  Thurm, A. R., Finkel, Y., Andrews, C., Cai, X. S., Benko, C., Bintu, L.
  2025: 101450
- **Rewriting regulatory DNA to dissect and reprogram gene expression.** *Cell*
  Martyn, G. E., Montgomery, M. T., Jones, H., Guo, K., Doughty, B. R., Linder, J., Bisht, D., Xia, F., Cai, X. S., Chen, Z., Cochran, K., Lawrence, K. A., Munson, et al
  2025

- **Deciphering the impact of genomic variation on function.** *Nature*
  2024; 633 (8028): 47-57
- **High-throughput discovery of regulatory effector domains in human RNA-binding proteins.** *bioRxiv : the preprint server for biology*
  Thurm, A. R., Finkel, Y., Andrews, C., Cai, X. S., Benko, C., Bintu, L.
  2024
- **Computation empowers CRISPR discovery and technology.** *Nature computational science*
  Shang, S., Cai, X. S., Qi, L. S.
  2022; 2 (9): 533-535