Stanford

Weize Xu

Postdoctoral Scholar, Genetics

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BIO

Dr. Weize Xu is a postdoctoral researcher in Dr. Xiaojie Qiu's laboratory, where he focuses on advancing computational biology and genomics research. He earned his Ph.D. in Dr. Gang Cao's lab, where he made significant contributions to the development of computational methods and pipelines for spatial transcriptomics (MiP-Seq) and single-cell Hi-C (sciDLO Hi-C). His work during this time centered on enhancing data analysis frameworks, providing more precise insights into complex biological systems.

Dr. Xu is also an expert in the development of bioimaging processing softwares. During his Ph.D., he developed the U-FISH method, a deep learning-based approach for detecting signal points in FISH images. This innovative project involved curating a high-quality dataset from diverse sources, ensuring robust performance across various FISH data types. The resulting model demonstrated outstanding generalizability and included a user-friendly Web and LLM interface, making it accessible to researchers worldwide.

In addition to his Ph.D. research, Dr. Xu further honed his skills at SciLifeLab, where he worked under the mentorship of Dr. Wei Ouyang. There, he focused on web programming and developing key components for the Bioimage.IO deep learning platform, gaining valuable experience in creating innovative tools for computational biology.

With a solid foundation in computational biology, deep learning, and bioinformatics, Dr. Xu is passionate about driving cutting-edge research and contributing new perspectives to his field. He brings a unique combination of technical expertise and a collaborative mindset to his role in Dr. Xiaojie Qiu’s lab.

STANFORD ADVISORS

- Xiaojie Qiu, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **U-FISH: a fluorescent spot detector for imaging-based spatial-omics analysis and AI-assisted FISH diagnosis.** *Genome biology*
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- **Spatial multi-omics at subcellular resolution via high-throughput in situ pairwise sequencing.** *Nature biomedical engineering*
  Wu, X., Xu, W., Deng, L., Li, Y., Wang, Z., Sun, L., Gao, A., Wang, H., Yang, X., Wu, C., Zou, Y., Yan, K., Liu, et al
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- **Decoding the spatial chromatin organization and dynamic epigenetic landscapes of macrophage cells during differentiation and immune activation.** *Nature communications*
  Lin, D., Xu, W., Hong, P., Wu, C., Zhang, Z., Zhang, S., Xing, L., Yang, B., Zhou, W., Xiao, Q., Wang, J., Wang, C., He, et al
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- **CoolBox: a flexible toolkit for visual analysis of genomics data.** *BMC bioinformatics*
  Xu, W., Zhong, Q., Lin, D., Zuo, Y., Dai, J., Li, G., Cao, G.
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