

# Xingyu Su

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## RESEARCH INTEREST

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My research focuses on generative modeling and optimization, with an emphasis on **discrete diffusion models**, **reinforcement learning methods**, and **large language models**. I am the author of **Seq2Exp**, a framework that leverages large language models to capture causal relationships between DNA and epigenomic data for gene-expression prediction, which was selected as an oral paper at ICLR 2025. I also proposed **VIDD** (Iterative Distillation for Reward-Guided Fine-Tuning of Diffusion Models in Biomolecular Design), which develops reinforcement learning methods to fine-tune discrete diffusion models.

## EDUCATION

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### Texas A&M University

*Ph.D. in Computer Science & Engineering*

- **Advisor:** Prof. Shuiwang Ji

College Station, TX

*Sep 2023 – Aug 2027 (Expected)*

### Shanghai Jiao Tong University

*Master of Science in Electronic and Information Engineering*

- **Advisor:** Prof. Yanyan Shen

Shanghai, China

*Sep 2020 – Feb 2023*

### Shanghai Jiao Tong University

*Bachelor of Science in Mechanical Engineering*

Shanghai, China

*Sep 2016 – Aug 2020*

## PUBLICATIONS

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- **Learning to Discover Regulatory Elements for Gene Expression Prediction.**  
*International Conference on Learning Representations (ICLR 2025, Oral Presentation – top 1.8% of accepted papers).*  
Xingyu Su\*, Haiyang Yu\*, Degui Zhi, and Shuiwang Ji.
- **Reward-Guided Iterative Refinement in Diffusion Models at Test-Time with Applications to Protein and DNA Design.**  
*International Conference on Machine Learning (ICML 2025).*  
Masatoshi Uehara\*, Xingyu Su\*, Yulai Zhao, Xiner Li, Aviv Regev, Shuiwang Ji, Sergey Levine, Tommaso Biancalani.
- **Iterative Distillation for Reward-Guided Fine-Tuning of Diffusion Models in Biomolecular Design.**  
*arXiv preprint arXiv:2507.00445 (2025).*  
Xingyu Su\*, Xiner Li\*, Masatoshi Uehara\*, Sunwoo Kim, Yulai Zhao, Gabriele Scalia, Ehsan Hajiramezani, Tommaso Biancalani, Degui Zhi, Shuiwang Ji.
- **Dynamic Search for Inference-Time Alignment in Diffusion Models.**  
*arXiv preprint arXiv:2503.02039 (2025).*  
Xiner Li\*, Masatoshi Uehara\*, Xingyu Su, Gabriele Scalia, Tommaso Biancalani, Aviv Regev, Sergey Levine, Shuiwang Ji.
- **Language Models for Controllable DNA Sequence Design.**  
*arXiv preprint arXiv:2507.19523 (2025).*  
Xingyu Su, Xiner Li, Yuchao Lin, Ziqian Xie, Degui Zhi, Shuiwang Ji.
- **Autonomous Agents for Scientific Discovery: Orchestrating Scientists, Language, Code, and Physics.**  
*arXiv preprint arXiv:2510.09901 (2025).*  
Lianhao Zhou, Hongyi Ling, Cong Fu, Yepeng Huang, Michael Sun, Wendi Yu, Xiaoxuan Wang, Xiner Li, Xingyu Su, Junkai Zhang, Xiusi Chen, Chenxing Liang, Xiaofeng Qian, Heng Ji, Wei Wang, Marinka Zitnik, Shuiwang Ji.

## PROFESSIONAL EXPERIENCE

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<b>The DIVE Lab, Texas A&amp;M University</b> <i>Graduate Student Researcher</i>	Sep 2023 – Present <i>College Station, TX</i>
<b>Meituan</b> <i>Recommendation Algorithm Engineer (Full-time)</i>	Feb 2023 – Jul 2023 <i>Shanghai, China</i>
<b>Intel</b> <i>Machine Learning Engineer (Intern)</i>	Aug 2022 – Dec 2022 <i>Shanghai, China</i>
<b>Shanghai Jiao Tong University</b> <i>Teaching Assistant - VM382 Mechanical Behavior of Materials</i>	2019 <i>Shanghai, China</i>

## AWARDS & HONORS

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Graduate Research Excellence, TAMU CSE, one per year	2025
Undergraduate Merit Scholarship	2019
Fuda Scholarship	2019

## SERVICES | REVIEWERS

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International Conference on Learning Representations (ICLR)	2026
Annual Conference on Neural Information Processing Systems (NeurIPS)	2025
Conference on Information and Knowledge Management (CIKM)	2025,2024