ZHANGZHI PENG

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Durham, North Carolina, United States 573-318-1352

EDUCATION

Duke University *Jan 2024 - Jun 2029 (Expected)*
Ph.D. Student of Biomedical Engineering
Advisor: Pranam Chatterjee

University of Missouri *Sep 2023 - Dec 2023*
Ph.D. Student of Computer Science

East China Jiaotong University *Sep 2019 - July 2023*
B.E. of Computer Science
GPA: 3.72

PUBLICATIONS

EvoFlow-RNA: Generating and Representing non-coding RNA with a Language Model
Sawan Patel, Fred Zhangzhi Peng, Keith Fraser, Adam D Friedman, Pranam Chatterjee, Sherwood Yao
Preprint, 2025

Path Planning for Masked Diffusion Model Sampling
Fred Zhangzhi Peng, Zachary Bezemek, Sawan Patel, Sherwood Yao, Jarrid Rector-Brooks, Alexander Tong, Pranam Chatterjee
Preprint, 2025

AptaBLE: A Deep Learning Platform for de-novo Aptamer Generation and SELEX Optimization
Sawan Patel, Keith Fraser, Zhangzhi Peng, Owen Yao, Adam Friedman, Pranam Chatterjee, Sherwood Yao, Atom Bioworks
Preprint, 2025

PTM-Mamba: A PTM-Aware Protein Language Model with Bidirectional Gated Mamba Blocks
Zhangzhi Peng, Benjamin Schussheim, Pranam Chatterjee
In press, Nature Methods, 2025

Steering Masked Discrete Diffusion Models via Discrete Denoising Posterior Prediction
Jarrid Rector-Brooks, Mohsin Hasan, Zhangzhi Peng, Zachary Quinn, Chenghao Liu, Sarthak Mittal, Nouha Dziri, Michael Bronstein, Yoshua Bengio, Pranam Chatterjee, Alexander Tong, Avishek Joey Bose
ICLR 2025

Proteus: Exploring Protein Structure Generation for Enhanced Designability and Efficiency
Chentong Wang, Yannan Qu, Zhangzhi Peng, Yukai Wang, Hongli Zhu, Dachuan Chen, Longxing Cao
ICML 2024

Generative Diffusion Models for Antibody Design, Docking, and Optimization
Zhangzhi Peng, Chenchen Han, Xiaohan Wang, Dapeng Li, Fajie Yuan
Preprint, 2024

Accurate Prediction of Antibody Function and Structure Using Bio-Inspired Antibody Language Model
Hongtai Jing, Zhengtao Gao, Sheng Xu, Tao Shen, Zhangzhi Peng, Shwai He, Tao You, Shuang Ye, Wei Lin, Siqi Sun
Briefings in Bioinformatics, 2024

E2Efold-3D: End-to-End Deep Learning Method for Accurate de novo RNA 3D Structure Prediction
Tao Shen, Zhihang Hu*, Zhangzhi Peng*, Jiayang Chen, Peng Xiong, Liang Hong, Liangzhen Zheng, Yixuan Wang, Irwin King, Sheng Wang, Siqi Sun, Yu Li*
[preprint], 2022

Spatial-temporal Transformer Network with Self-supervised Learning for Traffic Flow Prediction
Zhangzhi Peng, Xiaohui Huang
IJCAI-ECAI STRL Workshop (Spatial-Temporal Reasoning and Learning), 2022
[paper] [github]

AWARD

NSF Travel Award for CIKM 2024 Oct. 2024
Duke BME Travel Award for BMES 2024 Oct. 2024
Second-class Student Scholarship 2021
Third-class Student Scholarship 2020

SERVICE

Conference Reviewer: ICLR 2025
Journal Reviewer: IEEE/ACM Transactions on Computational Biology and Bioinformatics

SKILLS

Languages: C, C++, JAVA, Python.
Frameworks: TensorFlow, PyTorch, Numpy, Pandas, Seaborn.
Technologies: Machine learning, Deep learning, Bioinformatics.