

YANGYANG LI

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SELF-INTRODUCTION

I am a third-year Ph.D. candidate with a focus on deep learning and algorithm development for complex biological problems. My area of expertise is machine learning-based, data-driven domains. Armed with a passion for applying this knowledge to scientific issues, I am eager to contribute and further my knowledge in a fast-paced professional environment.

RESEARCH EXPERIENCE AND PROJECT

Northwestern University

Chicago, US

Ph.D. in Bioinformatics

June 2022 – Present

- Formulated a deep generative model tailored for sequencing data simulation
- Introduced a graph algorithm to identify non-linear transcripts in long-read data, achieving a 20x speedup
- Crafted a web application for graph algorithm visualization
- Designed a Python interface for a C-based command-line tool, gaining 20% performance boosts

University of Minnesota

Minnesota, US

Ph.D. in Bioinformatics and Computational Biology

Sep. 2020 – June 2022

- Developed a transformer-based deep learning model to predict causality between gene fusion and structural variation
- Pioneered an algorithm to discern non-linear structure variations in transcriptomes
- Conducted a comprehensive assessment of the effectiveness of leading tools for the detection of alternative splicing variants

China Agricultural University

Beijing, CN

Master in Crop Bioinformatics

Sep. 2018 – June 2020

- Identified pivotal features in 1,400 maize genomics datasets to enhance agronomic traits
- Undertook a study to map the relationship between genetic variations and maize ear attributes in 450 natural populations

EDUCATION

Northwestern University

Chicago, US

Ph.D in Bioinformatics

June 2022 – present

University of Minnesota

Minnesota, US

Ph.D. in Bioinformatics and Computational Biology

Sep. 2020 – June 2022

China Agricultural University

Beijing, CN

Master in Crop Bioinformatics

Sep. 2018 – June 2020

Northeast Agricultural University

Harbin, CN

Bachelor of Arts in Agricultural Engineering

Sep. 2014 – June 2018

TECHNICAL SKILLS

Languages and Frameworks: C/C++, Python, Rust, Pytorch, Jax, GGML

Developer Tools: Neovim, Git, Docker, GitHub Action, Gcc, Clang, L^AT_EX

Specializations: Algorithm Development, Concurrency Programming, Data Analysis and Visualization, Natural Language Processing

PUBLICATIONS

Fry, J., Li, Yangyang, & Yang, R. (2022, 09). ScanExitronLR: characterization and quantification of exon splicing events in long-read RNA-seq data. *Bioinformatics*. doi: 10.1093/bioinformatics/btac626

Li, Yangyang, & Yang, R. (2023). Pxblat: An ergonomic and efficient python binding library for blat. *bioRxiv*. doi: 10.1101/2023.08.02.551686