244 E. Pearson ST. Apt 1006
Chicago IL 60611

yangyang.li@northwestern.edu
+1-507-606-8822

Yangyang Li

yangyangli.top | github.com/cauliyang | linkedin.com/in/yangyang-liz5

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. I am skilled at applying these technologies to solve scientific issues, and 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 — *Sep. 2022 – Present*

- Developed a deep generative model 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 – Present*

- Pioneered an algorithm to discern non-linear structure variations in transcriptomes
- Evaluated the efficacy of prevalent tools for detecting alternative splicing variants

China Agricultural University — Beijing, CN
Master in Crop Bioinformatics — *Sep. 2018 – June 2020*

- Identified key features in 1,400 maize genomics datasets to enhance agronomic traits
- Examined the correlation between genetic variations and maize ear characteristics 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
Developer Tools: Neovim, Git, Docker, GitHub Action, Gcc, Clang
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 exitron 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