

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. 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 <i>Ph.D. in Bioinformatics</i>	Chicago, US <i>June 2022 – Present</i>
<ul style="list-style-type: none">Formulated a deep generative model tailored for sequencing data simulationIntroduced a graph algorithm to identify non-linear transcripts in long-read data, achieving a 20x speedupCrafted a web application for graph algorithm visualizationDesigned a Python interface for a C-based command-line tool, gaining 20% performance boosts	
University of Minnesota <i>Ph.D. in Bioinformatics and Computational Biology</i>	Minnesota, US <i>Sep. 2020 – June 2022</i>
<ul style="list-style-type: none">Developed a transformer-based deep learning model to predict causality between gene fusion and structural variationPioneered an algorithm to discern non-linear structure variations in transcriptomesConducted a comprehensive assessment of the effectiveness of leading tools for the detection of alternative splicing variants	
China Agricultural University <i>Master in Crop Bioinformatics</i>	Beijing, CN <i>Sep. 2018 – June 2020</i>
<ul style="list-style-type: none">Identified pivotal features in 1,400 maize genomics datasets to enhance agronomic traitsUndertook a study to map the relationship between genetic variations and maize ear attributes in 450 natural populations	

EDUCATION

Northwestern University <i>Ph.D in Bioinformatics</i>	Chicago, US <i>June 2022 – present</i>
University of Minnesota <i>Ph.D. in Bioinformatics and Computational Biology</i>	Minnesota, US <i>Sep. 2020 – June 2022</i>
China Agricultural University <i>Master in Crop Bioinformatics</i>	Beijing, CN <i>Sep. 2018 – June 2020</i>
Northeast Agricultural University <i>Bachelor of Arts in Agricultural Engineering</i>	Harbin, CN <i>Sep. 2014 – June 2018</i>

TECHNICAL SKILLS

Languages and Frameworks: C/C++, Python, Rust, Pytorch, Jax, Candle, GGML
Developer Tools: Neovim, Git, Docker, GitHub Action, CMake, Gcc, Clang, Linux, L ^A T _E X
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