

CURRICULUM VITAE

RUNPENG LUO

CONTACT INFORMATION	Computer Science Building Department of Computer Science Princeton University Princeton, NJ, USA	<i>Phone:</i> (+01) 609 933 5742 <i>E-mail:</i> runpeng.luo@princeton.edu <i>Website:</i> runpengluo.github.io <i>Google Scholar:</i> Link
EDUCATION	Princeton University , Princeton, NJ, USA Doctor of Philosophy (Ph.D.) in Computer Science Australian National University , Canberra, ACT, Australia Bachelor of Advanced Computing (Research and Development) (Honours) First Class Honours - GPA: 6.813/7 Advisors: Dr. Yu Lin and Dr. Benjamin Schwessinger Strathfield South High School , Sydney, NSW, Australia High School Certificate ATAR: 94.75	Sep 2024 - ongoing Feb 2020 - Dec 2023 Oct 2017 - Oct 2019
EMPLOYMENT	Diversity Arrays Technology , Canberra, ACT, Australia R&D Solution Developer Australian National University , Canberra, ACT, Australia Technical Assistant at the School of Biology Summer Research Intern at the School of Computing Teaching Assistant COMP3320 High Performance Scientific Computation COMP7240 Introduction to Database Concepts COMP4300/8300 Parallel System BIOL8002 Advanced Topics in Quantitative Biology and Bioinformatics COMP2400/6240 Relational Database	Feb 2024 - Aug 2024 Oct 2022 - Aug 2024 2021&2022 Summer 2023 Semester 2 2023 Semester 1 2023 Semester 1 2022 Semester 2 2021&2022 Semester 2
RESEARCH INTEREST	<i>Computational Biology</i> <i>Combinatorial Algorithm</i> <i>High Performance Computation</i>	
RESEARCH EXPERIENCE	Graph Model and Algorithms for Haplotype-resolved Assembly on Dikaryotic Genome Advisors: Dr. Benjamin Schwessinger, Dr. Lianrong Pu, and Dr. Qing Wang Objectives: Design and implement a bi-partition algorithm to assemble and phase dikaryotic genome using third-generation sequencing (TGS) data and Hi-C data. Plasmid Library Diversity Quantification using Nanopore Sequencing Data Advisors: Dr. Joseph Brock and Dr. Benjamin Schwessinger Objectives: Design and implement a novel classification algorithm to quantify the plasmid combinations from the library mixture. De Novo Reconstruction of Viral Strains via Iterative Path Extraction from Assembly Graphs Advisors: Dr. Yu Lin Objectives: Design and implement an assembly algorithm to reconstruct strains from viral quasispecies under De novo approach.	Feb 2023 - Dec 2023 Jun 2023 - May 2024 Dec 2021 - Oct 2022
AWARDS	ANU Summer Research Scholarship, 2021&2022 Summer, Canberra, Australia NSW Government School International Student Awards - Academic Achievement 2020, Sydney, Australia	
TALKS	27th Annual International Conference on Research in Computational Molecular Biology, (RECOMB 2023), Link , Istanbul, Turkey, Apr 2023.	

RELEVANT SKILLS **Programing:** Python, C/C++, Java, Haskell, Rust, ARMv7 Assembly, PostgreSQL
Utilities: Bash, \LaTeX , Anaconda, Git, VsCode, Jupyter Notebook

LANGUAGES **Mandarin Chinese** (native)
English (fluent)

REFERENCES Dr. Benjamin Schwessinger *E-mail:* benjamin.schwessinger@anu.edu.au
Associate Professor at the Research School of Biology, Australian National University

Dr. Yu Lin *E-mail:* yu.lin@anu.edu.au
Senior Lecturer at the School of Computing, Australian National University

PUBLICATIONS Williams, A., **Luo, R.**, Smith, O. B., Murphy, L., Schwessinger, B., and Brock, J., High-throughput optimisation of protein secretion in yeast via an engineered biosensor. bioRxiv, 2024-05. [10.1101/2024.05.15.594099](https://doi.org/10.1101/2024.05.15.594099)

Luo, R. and Lin, Y., VStrains: De Novo Reconstruction of Viral Strains via Iterative Path Extraction From Assembly Graphs. *Proceedings of the 27th International Conference in Computational Molecular Biology (RECOMB 2023)*, 3-20 (2023). [10.1007/978-3-031-29119-7_1](https://doi.org/10.1007/978-3-031-29119-7_1)