

# Chaohui Li

Department of Computer Science and Engineering  
University of California San Diego  
9500 Gilman Dr, La Jolla 92093  
California, United States

Email: [chl221@ucsd.edu](mailto:chl221@ucsd.edu)  
Homepage: <https://eric0627.github.io/>  
Other links: [Google Scholar](#), [GitHub](#)  
[LinkedIn](#), [ORCID](#)

## Research Interests

Algorithms, bioinformatics, computational biology, cancer genomics, and machine learning.

## Education

2023 – Present      PhD student, Computer Science and Engineering, UC San Diego  
Advisor: Prof. Vineet Bafna

2017 – 2021      B.Sci., Computer Science, City University of Hong Kong  
GPA: 3.87/4.3 (Top 10% & First Class Honours)

## Publications

(\*joint first authorship)

- [1] C. Li\*, L. Chen\*, G. Pan, W. Zhang, & S. C. Li. “Deciphering complex breakage-fusion-bridge genome rearrangements with Ambigram”. *Nature Communications*, 14, 5528, Sep 2023. DOI: <https://doi.org/10.1038/s41467-023-41259-w>
- [2] L. Zhang, L. Chen, S. C. Li, M. Wang, C. Li, T. Song, Y. Ni, Y. Yang, Z. Liu, M. Yao, B. Shen, W. Li. “Heterogeneity in lung cancers by single-cell DNA sequencing”. *Clinical and Translational Medicine*, vol. 13, issue 9, Aug 2023. DOI: <https://doi.org/10.1002/ctm2.1388>
- [3] W. Zhang, J. Ju, Y. Zhou, T. Xiong, M. Wang, C. Li, S. Lu, Z. Lu, L. Lin, X. Liu, S. C. Li. “IM-perm: a fast and comprehensive IMMune Paired-End Reads Merger for sequencing data”. *Briefings in Bioinformatics*, vol. 24, issue 2, Mar 2023. DOI: <https://doi.org/10.1093/bib/bbad080>
- [4] L. Chen\*, Y. Qing\*, R. Li\*, C. Li\*, H. Li, X. Feng, & S. C. Li. “Somatic variant analysis suite: copy number variation clonal visualization online platform for large-scale single-cell genomics”. *Briefings in Bioinformatics*, vol. 23, issue 1, Jan 2022. DOI: <https://doi.org/10.1093/bib/bbab452>
- [5] X. Feng, L. Chen, Y. Qing, R. Li, C. Li, & S. C. Li. “SCYN: single cell CNV profiling method using dynamic programming”. *BMC Genomics*, vol. 22, Nov 2021. DOI: <https://doi.org/10.1186/s12864-021-07941-3>

## Research Experience

2023 – Present      Graduate Student Researcher, Dept. of CSE, UC San Diego  
Research topic: Algorithms in cancer genomics  
Advisor: Prof. Vineet Bafna

2021 – 2023      Research Assistant, Dept. of Computer Science, CityU of Hong Kong  
Research topic: Algorithms in deciphering complex structural variants  
Advisor: Prof. Shuai Cheng Li

2019 – 2020      Student Research Assistant, CityU Shenzhen Research Institute  
Research topic: Data visualization for single-cell genomic analysis

## Teaching Assistant

2019 – 2021      CS2310, Computer Programming      City University of Hong Kong

## Honors & Awards

December 2020      Silver Award, the 12<sup>th</sup> “Challenge Cup” National Business Plan Competition for College Students

March 2020      CityU Scholarship, City University of Hong Kong

2018 – 2021      Dean’s List, College of Engineering, CityU of Hong Kong

2017 – 2021      CityU Mainland Student Scholarship (Full Tuition), CityU of Hong Kong

## Software

- [Ambigram](#) – An algorithm to reconstruct complex BFB rearrangements.
- [scSVAS](#) – An online visualization platform for interactive single-cell genomics data analysis.
- [Coin Hunter](#) – A multiplayer maze game implemented in Haskell.
- [Puzzlengine](#) – A game generator for creating various sliding puzzles with optimal solutions.