

# Qile Yang | Curriculum Vitae

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## Education

2023-27	B.A. Computer Science, B.A. Data Science*, Minor Bioengineering, University of California, Berkeley
2022	SAT Score: 1510/1600
2020-23	IB Diploma Higher level Math AA, Biology, Chemistry, International English Gymnasium Sodermalm

## Research Experience

2025–	Incoming Undergraduate Researcher, <a href="#">Goodarzi Lab</a> , Arc Institute.
2025–	ML Researcher, <a href="#">Song Lab</a> , University of California, Berkeley.
2024	Bioinformatics/AI engineer, <a href="#">Generation Lab, Inc.</a>
2023-25	Researcher and Bioinformatician, <a href="#">Conboy Lab</a> , University of California, Berkeley.
2023	Researcher, Hallucinating Scaffolds team, <a href="#">iGEM at Berkeley</a> . (Advisor: <a href="#">Chris Anderson</a> )
2023–	Immunoinformatics/ML Researcher, Borch Lab, Washington University in St. Louis. (Advisor: <a href="#">Nicholas Borchering</a> )
2023	NGS Method developer, <a href="#">Sahlin Group</a> , SciLifeLab / Stockholm University. (Advisor: <a href="#">Kristoffer Sahlin</a> )
2022-23	Researcher, <a href="#">Karlsson-Hedestam/Murrell Lab</a> , Karolinska Institute. (Advisor: <a href="#">Benjamin Murrell</a> )

## Awards & Honors

2023	Finalist, National Swedish Research fair (1/55 projects)
2023	Top 60, National Swedish Programming Olympiad Site
2022	Top 115, National Swedish Chemistry Olympiad (Fully Swedish)
2022	Double Admit to Karolinska Institute's summer research programs (1/5 admitted nationwide)
2022	Top school participant, Swedish Biology Olympiad (Fully Swedish)
2023	PostHS scholarship recipient, Equitable College Counselling
2022-23	Swedish National Debate Team member (5 national debating awards)

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\*With [Domain Emphasis](#) of Computational Methods in Molecular and Genomic Biology

## Publications

### Journal Articles

- J1. Yang Qile. APackOfTheClones: Visualization of clonal expansion with circle packing. Journal of Open Source Software 9, 6868. <https://doi.org/10.21105/joss.06868> (2024).  
– Media: [R views \(by Rstudio\)](#), [R-bloggers](#), [Zhihu \[In Chinese\]](#), [360doc \[In Chinese\]](#), [Tencent \[In Chinese\]](#).

### Preprints

- B1. Yang, Qile, Safina, K. R. & Borcharding, N. scRepertoire 2: Enhanced and Efficient Toolkit for Single-Cell Immune Profiling. bioRxiv, 2024–12. <https://doi.org/10.1101/2024.12.31.630854> (2024).  
– Accepted at PLOS Computational Biology with: Nguyen, Kieu D. Q. and Tuong, Kelvin Z.  
– Media: [Chinese Software Developer Network \[In Chinese\]](#), [Jianshu \[In Chinese\]](#).

### Working papers

- W1. Cruz, J. M., Yeung, H., Alzalzalee, R., Yang, Qile, Kabir, H., McDonough, S., Mei, X., Conboy, M. J. & Conboy, I. M. In old mice, Exercise Induces Inflammation and Fibrosis unless Alk5-inhibitor and Oxytocin are used Manuscript In Press. 2024.  
– Accepted at Journal of Cellular Physiology.
- W2. Cruz, J. M., Alzalzalee, R., Yeung, H., Mahmood, Z., Yang, Qile, Morshedien, N., Conboy, M. J., Mazahery, A. R., Nevado, J. B. & Conboy, I. M. Plasma dilution rescues cardiac repair after myocardial infarction in old animals Manuscript Under Review. 2025.
- W3. Borcharding, N., Sun, B., DeNardo, D., Mudd, P. A., Ellebedy, A., Yang, Qile & Brestoff, J. R. Ibex: Deep autoencoders for single-cell BCR sequencing Manuscript to be submitted. 2025. <https://github.com/BorchLab/Ibex>.

## Presentations

### Posters

- P1. Yang, Qile, Sahlin, K. & Murrell, B. KmerGMA: A seed-based approach for fast homology searching Swedish National Science Fair 2023 Finals (Södertälje, Sweden). Apr. 2023.

### Demonstrations & Tutorials

- D1. Yang, Qile & Murrell, B. Discovery of Novel Camelid Germline Immunoglobulin Alleles Karolinska Institute's summer research program (SoFo) 2022 (Stockholm, Sweden). Aug. 2022. <https://github.com/Qile0317/SoFoCompBio22/blob/main/FinalPresentation.pptx>.
- D2. Yang, Qile & et al. Final Presentation: Hallucinating Scaffolds Team iGEM at Berkeley All Hands 3 (Berkeley CA, USA). Dec. 2023.

## Selected Media

- 2024      Chinese Software Developer Network, [免疫组库分析——scRepertoire \[Immune repertoire analysis - scRepertoire; in Chinese\]](#) [B1]  
2023      R-views (by RStudio), [May 2023: "Top 40" New CRAN Packages](#) [J1]

## Relevant Coursework

Computational Biology: Introduction to Computational Molecular and Cell Biology | Machine Learning, Statistical Models, and Optimization for Molecular Problems

Machine Learning / Statistics: Introduction to Artificial Intelligence | Principle & techniques of Data Science | Human Contexts and Ethics of Data

Biology / Chemistry: Chemical Structure and Reactivity | Organic Chemistry Laboratory | Introduction to Bioengineering | Careers in Biotechnology

Mathematics: Linear Algebra and Differential Equations | Multi-variable Calculus | Discrete Mathematics and Probability Theory | Introduction to Probability and Statistics

Computer Science: Structure and Interpretation of Computer Programs | Data Structures | Introduction to Competitive Programming

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