

# 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–         ML Researcher, [Song Lab](#), University of California, Berkeley.  
2024         Bioinformatics/AI engineer, [Generation Lab Inc.](#)  
2023–         Researcher and Bioinformatician, [Conboy Lab](#), University of California, Berkeley.  
2023         Researcher, Hallucinating Scaffolds team, [iGEM at Berkeley](#). (Advisor: [Chris Anderson](#))  
2023–         Immunoinformatics/ML Researcher, Borch Lab, Washington University in St. Louis. (Advisor: [Nicholas Borcharding](#))  
2023         NGS Method developer, [Sahlin Group](#), SciLifeLab / Stockholm University. (Advisor: [Kristoffer Sahlin](#))  
2022-23     Researcher, [Karlsson-Hedestam/Murrell Lab](#), Karolinska Institute. (Advisor: [Benjamin Murrell](#))

## 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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\*Expected.

## 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).  
– Media: *Chinese Software Developer Network* [In Chinese], *Jianshu* [In Chinese]  
– Currently Under Review  
– Additional co-authors: Nguyen, Kieu D. Q. and Tuong, Kelvin Z.

### 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 Under Review. 2024.
- 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.

## Projects

X1. **Yang, Qile.** *Characterization of a highschool's microbiome* IB Diploma Final project. 2022.

## 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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Last updated: May 10, 2025