

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.](#)
2023-25 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 Borchering](#))
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](#))
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)

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

Publications

Journal Articles

- J1. **Yang, Qile**, Safina, K. R., Nguyen, K. D. Q., Tuong, Z. K. & Borcharding, N. scRepertoire 2: Enhanced and efficient toolkit for single-cell immune profiling. *PLOS Computational Biology* **21**, 1–10. <https://doi.org/10.1371/journal.pcbi.1012760> (June 2025).
– Media: [ASCA](#), [Chinese Software Developer Network](#) [In Chinese], [Jianshu](#) [In Chinese]
– BioRxiv preprint: <https://doi.org/10.1101/2024.12.31.630854>.
- J2. **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].
- J3. 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. *Journal of Cellular Physiology* **240**, e70054. <https://onlinelibrary.wiley.com/doi/abs/10.1002/jcp.70054> (2025).

Working papers

- W1. 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 after myocardial infarction rescues cardiac repair, heart performance, and promotes recovery of motor function and endurance in old mice* Manuscript Under Review. 2025.
- W2. 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 Finals (Södertälje, Sweden). Apr. 2023. <https://qile0317.github.io/KmerGMA.jl/stable/>.
- P2. **Yang, Qile et al.** *Reimagining BCR Modeling: Small-Scale, Interpretable, Chemistry Informed Veridical Data Science for Biology* (Berkeley, CA, USA). July 2025. <https://www.eventbrite.com/e/veridical-data-science-for-biology-2025-tickets-1384456339179>.
– Upcoming.

Demonstrations & Tutorials

- D1. **Yang, Qile** & Murrell, B. *Discovery of Novel Camelid Germline Immunoglobulin Alleles* Karolinska Institute’s Summer Research Program in Computational Biology (Stockholm, Sweden). Aug. 2022. <https://github.com/Qile0317/SoFoCompBio22>.
- D2. **Yang, Qile et al.** *Final Presentation: Hallucinating Scaffolds Team* iGEM at Berkeley All Hands 3 (Berkeley CA, USA). Dec. 2023.

Selected Media Coverage

- 2025 Association of Single Cell Analysis (ASCA), [📌 scRepertoire 2: Enhanced and efficient toolkit for single-cell immune profiling \[J1\]](#)
- 2024 Chinese Software Developer Network, [Immune repertoire analysis - scRepertoire \[in Chinese\] \[J1\]](#)
- 2023 R-views (by RStudio), [May 2023: "Top 40" New CRAN Packages \[J2\]](#)

Professional Organizations

- 2023– Member, [Bioconductor Developer Community](#)
- 2025– Member, [Gerontological Society of America \(GSA\)](#)
- 2025– Member, [The Antibody Society](#)
- 2025– Member, [Boston Protein Design and Modelling Club \(BPDMC\)](#)
- 2025– Member, [Association of Single Cell Analysis \(ASCA\)](#)
- 2025– Member, [Bioinformatics.org](#)

Other Distinctions

- 2025 Top 20 Global Fellow, undisclosed BioTech/AI entrepreneurship program; eligible for mid six-figure conditional funding (< 0.1% acceptance rate)
- 2023 PostHS scholarship recipient, [Equitable College Counselling](#)
- 2023 Swedish National Debate Team member, [Swedish Schools Debating Organization](#)
- 2023 World Schools Debating Championship Sponsorship (Withdrew due to external constraints), [The Scholarship Fund in Memory of Ellinor Carlsson \[In Swedish\]](#)

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

Last updated: July 6, 2025