

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

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