Qile Yang | *Curriculum Vitae*
qile [dot] yang [at] berkeley [dot] edu

Education

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

Research Experience

2025–	ML Researcher, Yun S. Song Lab, Innovative Genomics Institute & Berkeley Artificial Intelligence Research
2023–	Computational Immunology Researcher, Borch Lab, Washington University in St. Louis. (Advisor: Nicholas Borcherding)
2024	Bioinformatics & AI engineer, Generation Lab, Inc. (YC S24)
2023-25	Researcher, Conboy Lab, University of California, Berkeley & QB3.
2023	Researcher, Hallucinating Scaffolds team, iGEM at Berkeley. (Advisor: Chris Anderson)
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
2022	Double Admit to Karolinska Institute's summer research programs (1/5 admitted nationwide)
2022	Top school participant, Swedish Biology Olympiad

Fellowships & Funding

*With Domain Emphasis of *Computational Methods in Molecular and Genomic Biology*

2025 Top 20 Global Fellow, competitive BioTech/AI entrepreneurship program; eligible for mid six-figure funding (< 0.1% acceptance rate)
2025 Recipient, Anna Whitlock Scholarship, Anna Whitlock Memorial Foundation [In Swedish]
2023 Recipient, PostHS scholarship, Equitable College Counselling

Publications

† → Equal contribution

Journal Articles

J1. 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 (June 2025).

J2. **Yang, Qile**, Safina, K. R., Nguyen, K. D. Q., Tuong, Z. K. & Borcherding, 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.

J3. **Yang Qile**. APackOfTheClones: Visualization of clonal expansion with circle packing. *Journal of Open Source Software* **9,** 6868. https://doi.org/10.21105/joss.06868 (Nov. 2024).
– Media: *R views (by Rstudio)*, *R-bloggers*, *Zhihu* [In Chinese], *360doc* [In Chinese], *Tencent* [In Chinese].

Working papers

W1. Cruz, J. M., Alzalzalee, R., Yeung, H., Mahmood, Z., **Yang, Qile**, Morshedian, 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. Borcherding, N., **Yang, Qile**, Sun, B., DeNardo, D., Mudd, P. A., Ellebedy, A. & 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/.

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.

Software

S1. Yang, Q. *Einops for R: Flexible, Powerful, and Readable Tensor Operations* The Comprehensive R Archive Network. 2025. https://qile0317.github.io/einops/.

S2. Yang, Q. *FastUtils: Fast, Readable Utility Functions* The Comprehensive R Archive Network. 2025. https://qile0317.github.io/FastUtils/.

S3. Lin[†], X., Lo[†], K. & **Yang[†], Qile**. *OKaiLoRa: a no-code platform for training, running, and sharing machine learning models in healthcare* Devpost. 2024. https://devpost.com/software/okailora-ai.

Selected Media Coverage

2025 Association of Single Cell Analysis (ASCA), 📍 scRepertoire 2: Enhanced and efficient toolkit for single-cell immune profiling [J2]

2024 Chinese Software Developer Network, Immune repertoire analysis - scRepertoire [in Chinese] [J2]

2023 R-views (by RStudio), May 2023: "Top 40" New CRAN Packages [J3]

Selected Professional Organizations

2025– Operations & Tech Lead, Computational Biology @ Berkeley

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)

Other Distinctions

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

$*$ → Taking currently

Computational Biology: Computational Single-Cell and Systems Immunology | Introduction to Computational Molecular and Cell Biology | Machine Learning, Statistical Models, and Optimization for Molecular Problems | Computational Functional Genomics | Introduction to Machine Learning for Computational Biology*

Machine Learning / Statistics: Introduction to Machine Learning | Introduction to Artificial Intelligence | Concepts of Probability | Principle & techniques of Data Science

Biology / Chemistry: General Genetics* | Chemical Structure and Reactivity | Organic Chemistry Laboratory | Introduction to Bioengineering | Careers in Biotechnology | Ethics in Science and Engineering

Mathematics: Real Analysis* | 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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