

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*
2020-23 **IB Diploma** Higher level Math AA, Biology, Chemistry, *International English Gymnasium Södermalm*

Research Experience

- 2025– ML Researcher, [Song Lab, Innovative Genomics Institute](#) & Berkeley Artificial Intelligence Research
2023– Computational Immunology Researcher, Borch Lab, Washington University in St. Louis. (Advisor: [Nicholas Borchering](#))
2024 Bioinformatics & AI engineer, [Generation Lab, Inc.](#)
2023-25 Researcher and Bioinformatician, 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

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

Publications

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.

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]

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)
2025–	Member, Association of Single Cell Analysis (ASCA)

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: 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

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