

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, [Song Lab](#), [Innovative Genomics Institute](#) & Berkeley Artificial Intelligence Research
- 2023– Computational Immunology Researcher, Borch Lab, Washington University in St. Louis. (Advisor: [Nicholas Borcharding](#))
- 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](#))

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. & 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>.

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

- 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**, 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. Borchering, 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.

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

- | | |
|------|---|
| 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](#)

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 \(BPDMC\)](#)

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

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

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 \[In Swedish\]](#)