

## Education

- 2023-27      **B.A.** Computer Science, **B.A.** Data Science<sup>\*</sup>, **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–      Immunoinformatics/ML 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](#))

## 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

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<sup>\*</sup>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> (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>.
- 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> (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. Borcharding, 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), <a href="#">📌 scRepertoire 2: Enhanced and efficient toolkit for single-cell immune profiling [J2]</a>
2024	Chinese Software Developer Network, <a href="#">Immune repertoire analysis - scRepertoire [in Chinese] [J2]</a>
2023	R-views (by RStudio), <a href="#">May 2023: "Top 40" New CRAN Packages [J3]</a>

## Professional Organizations

2025–	Operations & Tech Lead, <a href="#">Computational Biology @ Berkeley</a>
2023–	Member, <a href="#">Bioconductor Developer Community</a>
2025–	Member, <a href="#">Gerontological Society of America (GSA)</a>
2025–	Member, <a href="#">The Antibody Society</a>
2025–	Member, <a href="#">Boston Protein Design and Modelling Club (BPDMC)</a>
2025–	Member, <a href="#">Association of Single Cell Analysis (ASCA)</a>

## 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, <a href="#">Equitable College Counselling</a>
2023	Swedish National Debate Team member, <a href="#">Swedish Schools Debating Organization</a>
2023	World Schools Debating Championship Sponsorship (Withdrew due to external constraints), <a href="#">The Scholarship Fund in Memory of Ellinor Carlsson [In Swedish]</a>

## 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 | Human Contexts and Ethics of Data

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

**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

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