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–	Undergraduate Researcher, Engreitz Lab, Stanford University.
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 Borcherding)
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 projects)
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)
2023	PostHS scholarship recipient, Equitable College Counselling
2022-23	Swedish National Debate Team member (5 national debating awards)

*Expected.

Publications

Journal Articles

J1. **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].

Preprints

B1. **Yang, Qile**, Safina, K. R. & Borcherding, N. scRepertoire 2: Enhanced and Efficient Toolkit for Single-Cell Immune Profiling. *bioRxiv*, 2024–12. https://doi.org/10.1101/2024.12.31.630854 (2024).
– Accepted at *PLOS Computational Biology* with: Nguyen, Kieu D. Q. and Tuong, Kelvin Z.
– Media: *Chinese Software Developer Network* [In Chinese], *Jianshu* [In Chinese].

Working papers

W1. 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* Manuscript Under Review. 2024.

W2. 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 rescues cardiac repair after myocardial infarction in old animals* Manuscript Under Review. 2025.

W3. Borcherding, 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 2023 Finals (Södertälje, Sweden). Apr. 2023.

Demonstrations & Tutorials

D1. **Yang, Qile** & Murrell, B. *Discovery of Novel Camelid Germline Immunoglobulin Alleles* Karolinska Institute's summer research program (SoFo) 2022 (Stockholm, Sweden). Aug. 2022. https://github.com/Qile0317/SoFoCompBio22/blob/main/FinalPresentation.pptx.

D2. **Yang, Qile** & et al. *Final Presentation: Hallucinating Scaffolds Team* iGEM at Berkeley All Hands 3 (Berkeley CA, USA). Dec. 2023.

Projects

X1. **Yang, Qile**. *Characterization of a highschool's microbiome* IB Diploma Final project. 2022.

Selected Media

2024 Chinese Software Developer Network, 免 疫 组 库 分 析——scRepertoire [Immune repertoire analysis - scRepertoire; in Chinese] [B1]

2023 R-views (by RStudio), May 2023: "Top 40" New CRAN Packages [J1]

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

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