

AAKARSH ANAND

☎ 408.813.0119 | ✉ aanand2@g.ucla.edu | 🏠 aakarsh-anand.github.io

OBJECTIVE

Large-scale machine learning and statistical modeling. Currently, I am working on applications of AI/ML in biomedical data, particularly developing foundation models for high-dimensional clinical data. I am also interested in developing efficient computational methods to deepen our understanding of complex human traits and diseases. I have recently published in Nature Genetics and Genome Research.

EDUCATION

Ph.D. in Computer Science

Sep 2024 – Present

UCLA | Los Angeles, CA

Major Field: Artificial Intelligence

Minor Fields: Data Science Computing, Computational Systems Biology

B.S. in Computer Science

Sep 2020 – Jun 2024

UCLA | Los Angeles, CA

EXPERIENCE

Graduate Student Researcher

Jan 2022 – Present

Advisor: Sriram Sankararaman | UCLA

- Devising foundation models for wearable time-series data to enable personalized health insights (in progress)
- Developed a scalable algorithm for detecting pairwise interaction effects between genetic variants in biobank-scale datasets (*Genome Research*, *RECOMB 2024*)
- Leveraged a randomized method of moments statistical framework to build an algorithm for efficient variance component estimation in biobank-scale datasets (*Nature Genetics*)

Software Engineering Intern

Jun 2023 – Sep 2023

LabCorp | Burlington, NC

- Designed and implemented reproducible/efficient Snakemake pipelines to analyze high volumes of genetic sequencing data

Research Intern

Jun 2022 – Sep 2022

Bruins in Genomics Summer Program | UCLA

- Applied interpretable machine learning strategies to improve understanding of non-linear models of genetic data

Research Assistant

Jan 2021 – Apr 2022

Advisor: Paul Boutros | UCLA

- Implemented new alignment method (HISAT2) in cancer sequencing pipeline and redesigned configuration file for ease of use (*Cell*)
- Benchmarked pipeline performance in downstream tasks, created new documentation and diagrams

TEACHING AND MENTORSHIP

Teaching Assistant

Winter/Spring 2025, Spring 2026

Samueli School of Engineering | UCLA

- Machine Learning Applications in Genetics (CS C124)
- AI for Computational Genomics (CS CM121/221)
- Machine Learning Applications in Biomedicine (DS BMED 205)

PUBLICATIONS

- Fu, B.*, Anand, P.*, **Anand, A.***, Mefford, J., & Sankararaman, S. (2024a). A scalable adaptive quadratic kernel method for interpretable epistasis analysis in complex traits. *Genome Research*.
<https://genome.cshlp.org/content/34/9/1294.full.html>
- Fu, B., Pazokitoroudi, A., Xue, A., **Anand, A.**, Anand, P., Zaitlen, N., & Sankararaman, S. (2023a). A Biobank-scale test of marginal epistasis reveals genome-wide signals of polygenic epistasis. *Nature Genetics*.
<https://www.nature.com/articles/s41588-025-02411-y>
- Liu, Z., Ramteke, A., **Anand, A.**, Gorla, A., Jeong, M., & Sankararaman, S. (2026). A Biobank-Scale Method for Learning Modulators of Gene-Environment Interaction Underlying Human Complex Traits from Multiple Environmental Exposures. *RECOMB 2026 (top accept)*.
<https://doi.org/10.64898/2026.03.13.711725>
- Patel, Y., Zhu, C., Yamaguchi, T. N., Wang, N. K., **Anand, A.**, et al. (2024). Metapipeline-DNA: A Comprehensive Germline & Somatic Genomics Nextflow Pipeline. *Cell*.
[https://www.cell.com/cell-reports-methods/fulltext/S2667-2375\(26\)00040-8](https://www.cell.com/cell-reports-methods/fulltext/S2667-2375(26)00040-8)
- Liu, Z., Fu, B., Jeong, M., **Anand, A.**, et al. (2025). Comprehensive gene heritability estimation reveals the genetic architecture of rare coding variants underlying complex traits. *bioRxiv (In review Nature Genetics)*.
<https://doi.org/10.1101/2025.10.07.681018>

AWARDS

- Warren Alpert AI and Computational Biology Fellow Jun 2024
- Dean’s Honors List | UCLA All quarters 2020 – 2023
- NSF REU Scholarship | Bruins in Genomics Aug 2022
- Andy Grove Intel Scholarship | Intel Aug 2020

SKILLS

Technical	Machine Learning, Deep Learning, Statistics, Probabilistic Models, Pipelines
Frameworks	PyTorch, Sci-kit Learn, NumPy/Pandas, Git
Languages	Python, C++