Pratibha Jagannatha, PhD

Computational Biologist

Experience

Postdoctoral Scholar | UC San Diego | Ideker Lab | October 2025 – Present
- Taking a **biology-first approach** to building **interpretable, multi-modal, and multi-scale AI models** that integrate across biological data layers to model cancer cell behavior
- Benchmarking **AI agents** for biological applications

Graduate Researcher | UC San Diego | Yeo Lab | April 2020 – December 2024
- Developed novel computational methods and optimized statistical approaches for **long-read** and **single-cell sequencing-based assays** to map RNA–protein interactions and translation at mRNA-isoform resolution
- Engineered scalable single-cell and bulk RNA-seq processing pipelines using Snakemake, Nextflow, and Docker
- Implemented **transformer-based architectures** to predict and interpret protein function from sequence features
- Conducted a high-throughput screen of 800+ RNA-binding proteins for their roles in alternative polyadenylation
- Directed post-screen **multi-omics** and **single-cell perturbation** analysis to nominate new therapeutic targets

Venture Fellow | Vida Ventures | November 2022 – June 2023
- Conducted **scientific due diligence** and **market assessment** of 10+ therapeutic and platform companies
- Informed **investment strategy** through scientific evaluation of early-stage biotech startups

Junior Specialist | UC Santa Cruz – Brooks & Carpenter Labs | September 2018 – June 2019
- Developed **standardized RNA-seq analysis pipelines**, integrating ATAC-seq and ChIP-seq data for transcriptomic profiles of **immune-related alternative splicing**

Process Science Intern | Boehringer Ingelheim | June 2018 – September 2018
- Built and **deployed a data verification tool** to enhance GMP compliance and improve process efficiency
- **Collaborated cross-functionally** with scientists and data analysts on process optimization

Education

University of California, San Diego – Ph.D. in Bioinformatics & Systems Biology | September 2019 – December 2024
Advisor: Dr. Gene Yeo

University of California, Santa Cruz – B.S. in Bioengineering, Minor in Bioinformatics | September 2015 – June 2018
Cum Laude, Tau Beta Pi Engineering Honor Society

Technical Skills

Languages/Tools: Bash, Linux, Python, R, Nextflow , Snakemake, Docker, GitHub, AWS, HPC

Bioinformatics: bulk/single-cell sequencing analysis (Illumina, PacBio, ONT, 10x), multi-omics, AI/ML, pipeline development, data visualization

Wet Lab: mammalian cell culture, high-throughput screening, NGS and long-read library preparation, cloning, RT-PCR

Other: communication, leadership, market analysis, project management, scientific due diligence

Leadership

Co-Director, Sponsorship & Partnerships – Nucleate Bio San Diego | June 2021 – June 2022
- Co-founded regional bio-entrepreneurship program; secured $30K+ in sponsorships
- Conducted tech evaluations and ran workshops for academic founders

Select Publications

(9 publications, including Nature Biotech, Nat Methods, Nat Comm, Genome Res)
- **Jagannatha, P.**, Yoon, Y., Landry, S., Naritomi, J.T., Zhan, L., Olson, S., Wei, X., Street, L. A., Jovanovic, M., Graveley, B. R., Yeo, G.W., Large-scale discovery of RNA-binding proteins that directly modulate poly(A) site selection *(in preparation)*
- **Jagannatha, P.**, Tankka, A. T., Lorenz, D. A., Yu, T., Yee, B. A., Brannan, K. W., Zhou, C. J., Underwood, J. G., & Yeo, G. W. (2024). Long-read Ribo-STAMP simultaneously measures transcription and translation with isoform resolution. *Genome research*, gr.279176.124. Advance online publication. https://doi.org/10.1101/gr.279176.124
- Robinson, E. K.*, **Jagannatha, P.***, Covarrubias, S., Cattle, M., Smaliy, V., Safavi, R., Shapleigh, B., Abu- Shumays, R., Jain, M., Cloonan, S. M., Akeson, M., Brooks, A. N., & Carpenter, S. (2021). Inflammation drives alternative first exon

usage to regulate immune genes including a novel iron-regulated isoform of *Aim2*. *eLife, 10*, e69431. https://doi.org/10.7554/eLife.69431

Full list available via Google Scholar

Select Presentations

- RNA Society – Talk (2025) Large-scale tethered screen of RNA-binding proteins reveals novel regulators of poly(A) site selection
- Cold Spring Harbor Eukaryotic mRNA Processing – Talk (2023): STAMPing Protein-RNA Networks
- Advances in Genomic Technology Development – Talk (2022): Long-read STAMP

Honors & Awards

ARCS Scholar (2021–2024), NSF GRFP Honorable Mention, UC Santa Cruz Dean's Award & Merit Scholarship

References

Dr. Gene Yeo, Professor of Cellular and Molecular Medicine, University of California, San Diego
Dr. Angela Brooks, Professor of Biomolecular Engineering, University of California, Santa Cruz
Dr. Yoseop Yoon, Postdoctoral Scholar, Shi Lab, University of California, Irvine