Stanford

# Suhas Srinivasan, Ph.D.

Principal Bioinformatics Scientist, Dermatology

## Bio

### BIO

I develop computational algorithms including AI/ML and statistical methods to discover insights at various resolutions of the biological hierarchy i.e., molecules, cells, tissues, organs, organism and population-scale.

In my current role in the laboratories of Paul Khavari and Howard Chang I conduct bioinformatics research to study the molecular mechanisms of tissue development, cancers, autoimmunity and chronic diseases using multiomics, with a focus on the non-coding genome.

I have ten years of academic research experience and received my Ph.D. in Data Science specializing in AI/ML development for diverse topics in biomedicine.

My research interests include artificial intelligence to identify novel patterns in multiomics data, psychometrics and neuroimaging data; structural bioinformatics and computational epidemiology. Additionally, I have conducted research in anomaly detection, and community detection in biological networks.

I am the co-inventor of a patented anomaly detection method for real-time streaming data.

Prior to graduate training and academic research, I was a full-stack software engineer in industry for three years.

### HONORS AND AWARDS

- HHMI AI Accelerator Award (Howard Chang Lab), Stanford University (2024)
- AWS Cloud Computing Award (Paul Khavari Lab), Stanford University (2023)
- GCP Computing Research Award (Howard Chang Lab), Stanford University (2023)
- Oracle for Research Award (Paul Khavari Lab), Stanford University (2022)
- Academic Excellence Award, Data Science Program, Worcester Polytechnic Institute (2020)
- 2nd Place Award in CS, DS and Cybersecurity, Graduate Research and Innovation Exchange, Worcester Polytechnic Institute (2019)
- 1st Place Award in CS, DS and Cybersecurity, Graduate Research Innovation Exchange, Worcester Polytechnic Institute (2018)
- Conference Grant, Gordon Research Conferences (2018)
- Graduate Student Travel Grant, Worcester Polytechnic Institute (2018)
- Exceeded Expectations Commendation, Oracle (2013-15)
- Graduate Merit Scholarship, Birla Institute of Technology and Science, Pilani (2011-13)

### EDUCATION AND CERTIFICATIONS

- Ph.D., Data Science, Worcester Polytechnic Institute, MA, USA (2022)

- M.E., Software Systems, Birla Institute of Technology and Science, Pilani, India (2013)
- B.E., Computer Science, Visvesvaraya Technological University, Bangalore, India (2010)

### SERVICE, VOLUNTEER, AND COMMUNITY WORK

- Journal Reviewer
- Conference Reviewer
- Institutional Committees
- Curriculum Reviewer

### PATENTS

- Lou Zhang, Suhas Srinivasan. "United States Patent 11,181,899 System and method for monitoring machine anomalies via control data", Machinemetrics Inc, Nov 23, 2021

## Professional

### PROFESSIONAL INTERESTS

Data Science

Artificial Intelligence

Machine Learning

Bioinformatics

Computational Biology

Multiomics

Systems Biology

Structural Biology

Epidemiology

### WORK EXPERIENCE

- Senior Bioinformatics Scientist - Stanford School of Medicine (2022 - 2022)
- Graduate Research Assistant - Worcester Polytechnic Institute (2016 - 2022)
- Graduate Teaching Assistant - Worcester Polytechnic Institute (2015 - 2018)
- Data Scientist Intern - MachineMetrics (2018 - 2018)
- Member Technical Staff - Oracle (2013 - 2015)
- Software Engineer Intern - Dell EMC (2013 - 2013)
- Graduate Teaching Assistant - Birla Institute of Technology and Science (2011 - 2012)
- Software Quality Engineer - SAP Labs (2011 - 2011)

### PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Member, Association for Computing Machinery
- Member, International Society for Computational Biology

## Publications

### PUBLICATIONS

- **Autoantibody hotspots reveal origin and impact of immunogenic XIST ribonucleoprotein complex.** *bioRxiv : the preprint server for biology*

Yan, B., Lee, J., Srinivasan, S., Shi, Q., Dou, D. R., Davuluri, S., Nandyala, S., Woods, A., Leatherman, G., Zhao, Y., Reggiardo, R. E., Sawant, M., Thiam, et al
2025

- **DDX50 cooperates with STAU1 to effect stabilization of pro-differentiation RNAs.** *Cell reports*
  Miao, W., Porter, D. F., Siprashvili, Z., Ferguson, I. D., Ducoli, L., Nguyen, D. T., Ko, L. A., Lopez-Pajares, V., Srinivasan, S., Hong, A. W., Yang, Y. Y., Cao, Z., Meyers, et al
  2025; 44 (1): 115174

- **irCLIP-RNP and Re-CLIP reveal patterns of dynamic protein associations on RNA.** *bioRxiv : the preprint server for biology*
  Ducoli, L., Zarnegar, B. J., Porter, D. F., Meyers, R. M., Miao, W., Riley, N. M., Srinivasan, S., Jackrazi, L. V., Yang, Y. Y., Li, Z., Wang, Y., Bertozzi, C. R., Flynn, et al
  2024

- **Mitochondrial Raf1 Regulates Glutamine Catabolism.** *bioRxiv : the preprint server for biology*
  Shanderson, R. L., Ferguson, I. D., Siprashvili, Z., Ducoli, L., Li, A. M., Miao, W., Srinivasan, S., Velasco, M. G., Li, Y., Ye, J., Khavari, P. A.
  2024

- **Xist ribonucleoproteins promote female sex-biased autoimmunity.** *Cell*
  Dou, D. R., Zhao, Y., Belk, J. A., Zhao, Y., Casey, K. M., Chen, D. C., Li, R., Yu, B., Srinivasan, S., Abe, B. T., Kraft, K., Hellström, C., Sjöberg, et al
  2024; 187 (3): 733-749.e16

- **The Extent of Edgetic Perturbations in the Human Interactome Caused by Population-Specific Mutations.** *Biomolecules*
  Cui, H., Srinivasan, S., Gao, Z., Korkin, D.
  2023; 14 (1)

- **Unravelling psychiatric heterogeneity and predicting suicide attempts in women with trauma-related dissociation using artificial intelligence** *EUROPEAN JOURNAL OF PSYCHOTRAUMATOLOGY*
  Srinivansan, S., Harnett, N. G., Zhang, L., Dahlgren, M., Jang, J., Lu, S., Nephew, B. C., Palermo, C. A., Pan, X., Eltabakh, M. Y., Frederick, B. B., Gruber, S. A., Kaufman, et al
  2022; 13 (2)

- **Computational protein modeling and the next viral pandemic** *NATURE METHODS*
  Narykov, O., Srinivasan, S., Korkin, D.
  2021; 18 (5): 439-440

- **Structural Genomics and Interactomics of SARS-COV2: Decoding Basic Building Blocks of the Coronavirus** *Virus Bioinformatics*
  Gao, Z., Lu, S., Narykov, O., Srinivasan, S., Korkin, D.
  Chapman and Hall/CRC.2021; 1: 121-139

- **A hybrid deep clustering approach for robust cell type profiling using single-cell RNA-seq data** *RNA*
  Srinivasan, S., Leshchyk, A., Johnson, N. T., Korkin, D.
  2020; 26 (10): 1303-1319

- **Structural Genomics of SARS-CoV-2 Indicates Evolutionary Conserved Functional Regions of Viral Proteins** *VIRUSES-BASEL*
  Srinivasan, S., Cui, H., Gao, Z., Liu, M., Lu, S., Mkandawire, W., Narykov, O., Sun, M., Korkin, D.
  2020; 12 (4)

- **Enriching Human Interactome with Functional Mutations to Detect High-Impact Network Modules Underlying Complex Diseases** *GENES*
  Cui, H., Srinivasan, S., Korkin, D.
  2019; 10 (11)

- **Assessment of network module identification across complex diseases** *NATURE METHODS*
  Choobdar, S., Ahsen, M. E., Crawford, J., Tomasoni, M., Fang, T., Lamparter, D., Lin, J., Hescott, B., Hu, X., Mercer, J., Natoli, T., Narayan, R., Aicheler, et al
  2019; 16 (9): 843-+

## PRESENTATIONS

- Multigranular AI approaches for biological discovery (January 2023)
- Transistors to transcription factors: Bioinformatics reimagined - Stanford Research Computing Center (August 2022)

- Unraveling tumor heterogeneity in triple-negative breast cancer at single-cell resolution - Human Cell Atlas General Meeting (June 2021)
- Structural genomics and interactomics of SARS-CoV-2 - ASBMB PDB50 Symposium (May 2021)
- In-silico edgetic profiling of population-specific variation in human genome - CSHL Biology of Genomes (May 2019)
- Real-time simulation of intelligent agents to study epidemiological outcomes - WPI Graduate Research Innovation Exchange (April 2019)
- Robust cell type profiling in single-cell RNA sequencing data through a de novo deep clustering approach - GRC Human Genetic Variation and Disease (June 2018)
- A hybrid deep clustering approach for robust cell type profiling - WPI Graduate Research Innovation Exchange (April 2018)