



Suhas Srinivasan, Ph.D.

Principal Bioinformatics Scientist, Dermatology

Bio

BIO

I develop computational 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, I lead the bioinformatics efforts for two groups that are pioneers in epigenomics research.

We study tissue development, cancer evolution, and autoimmunity using multiomics, with a focus on the non-coding genome.

I have five years of professional experience in industry and academia, and over eight years of academic research experience.

I received my Ph.D. in Data Science specializing in machine learning development for diverse biomedical problems.

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.

HONORS AND AWARDS

- 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", Machinematics 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)
- Research Assistant - Worcester Polytechnic Institute (2016 - 2022)
- 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)
- 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

- **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*
Srinivasan, 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., Leshchych, 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)