Stanford

Sharada Kalanidhi

Director of Data Science, Biochemistry - Genome Center

Bio

BIO

Sharada Kalanidhi is Director of Data Science at Stanford Genome Technology Center, SGTC (Dept of Biochemistry), Stanford University School of Medicine. Prior to this role, she worked in industry for 20+ years in roles involving quantitative strategy, data science and statistics. Her experiences shape her multi-disciplinary outlook and approach.

A decade of her experience was in the bond markets, where she performed quantitative analysis on interest rate securities, derivatives and mortgage-backed securities for institutional portfolio management, hedging and trading purposes. When a family member developed symptoms of unexplained fatigue, she became drawn to biostatistical problems. She assisted researchers at SGTC with data science and statistical analysis on ME/CFS patients, and finally joined them full-time. Her recent research has involved multivariate and machine learning analysis of the genomics and metabolomics underlying ME/CFS, and post-viral fatigue (such as long Covid.) Her research interests are computational genomics and algebraic statistics, as well as possible biological intersections with the mathematical area of applied category theory.

She has previously served as Co-Chair of the WiDS Datathon, an international Datathon with 25K+ entries worldwide, hosted at the Institute for Computational and Mathematical Engineering at Stanford University. https://icme.stanford.edu/

CURRENT ROLE AT STANFORD

Sharada is focused on building a Data Science capability at SGTC. Her recent research has involved multivariate and machine learning analysis of the biological mechanisms underlying ME/CFS and post-viral fatigue. Her previous research involved non-parametric analysis of the use of Aripiprazole as a treatment for ME/CFS.

PATENTS

- "United States Patent 8996510 Identifying digital content using bioresponse data", Mar 31, 2015
- "United States Patent 8719278 Method and system of scoring documents based on attributes obtained from a digital document by eye-tracking data analysis", May 6, 2014
- "United States Patent 8509826 Biosensor measurements included in the association of context data with a text message", Aug 13, 2013

Publications

PUBLICATIONS

- **Off label use of Aripiprazole shows promise as a treatment for Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS): a retrospective study of 101 patients treated with a low dose of Aripiprazole.** *Journal of translational medicine*
  Crosby, L. D., Kalanidhi, S., Bonilla, A., Subramanian, A., Ballon, J. S., Bonilla, H.
  2021; 19 (1): 50