Srinivasan Radhakrishnan

Current position

Associate Teaching Professor, Northeastern University, Boston

Appointments held

2023-Present	Associate Teaching Professor, Northeastern University
2019-2023	Assistant Teaching Professor, Northeastern University
2023-Present	Director of Data Analytics Engineering, Northeastern University
2020-2022	Associate Director of Data Analytics Engineering, Northeastern University
2019	Postdoctoral Research Associate, Northeastern University
2019	Part-time Lecturer, Northeastern University

Education

2018	PhD in Industrial Engineering, Northeastern University
2010	MS in Computer Systems Engineering, Northeastern University
2006	BE in Mechanical Engineering, Mumbai University

Continuing education

2023-2024	Stanford Graduate School of Business (LEAD Program)

Summary

Research	I specialize in leveraging data-driven approaches and predictive modeling to address challenges within the realms of Healthcare, Manufacturing, Supply Chains, and Scientometrics.
Teaching	I instruct graduate level engineering and management students in courses covering the essential principles of Data Analytics, Data Mining, Machine Learning and Data Visualization.
Leadership	In my role as the Director of the Data Analytics Engineering Program, I am responsible for managing curriculum development and ensuring the effective operation of the program across various campuses in the United States and Canada.

Research grants

2022 Online course development for Computation and Visualization, **National Science Foundation**, $15,000

2022 Novel Data Analytic Methods to Improve Burden Estimates for Wasting, **World Food Programme**, $30,000

2019 Faculty Development Fund, **Northeastern University**, $2,000

Peer reviewed publications

Google Scholar Link

Journal Articles

2023 Ozek, B., Lu, Z., Pouromran, F., Radhakrishnan, S., & Kamarthi, S. (2023). Analysis of pain research literature through keyword Co-occurrence networks. PLOS Digital Health, 2(9), e0000331.

2021 Pouromran F, Radhakrishnan S, Kamarthi S. Exploration of physiological sensors, features, and machine learning models for pain intensity estimation. Plos one. 2021 Jul 9;16(7):e0254108.

2019 Xu M, Radhakrishnan S, Kamarthi S, Jin X. Resiliency of mutualistic supplier-manufacturer networks. Scientific reports. 2019 Sep 19;9(1):1-0.

2019 Radhakrishnan S, Lee YT, Rachuri S, Kamarthi S. Complexity and entropy representation for machine component diagnostics. Plos one. 2019 Jul 9; 14(7):e0217919.

2017 Radhakrishnan S, Erbis S, Isaacs JA, Kamarthi S. Novel keyword co-occurrence network-based methods to foster systematic reviews of scientific literature. PloS one. 2017 Mar 22;12(3):e0172778.

2016 Radhakrishnan S, Duvvuru A, Sultornsanee S, Kamarthi S. Phase synchronization based minimum spanning trees for analysis of financial time series with nonlinear correlations. Physica A: Statistical Mechanics and its Applications. 2016 Feb 15; 444: Page 259-70.

2015 Radhakrishnan S, Duvvuru A, Kamarthi S. Health Care in US: A Combined Simulation Methodology to Assess the Effectiveness of Home-Monitoring Programmes. Vikalpa. 2015 Sep; 40(3): Page 269-76.

2013 Radhakrishnan S, Lin Y, Zeid I, Kamarthi S. Finger-based multitouch interface for performing 3D CAD operations. International Journal of Human-Computer Studies. 2013 Mar 1; 71(3): Page 261-75.

Conference articles

2017 Radhakrishnan S, Lee YT, Kamarthi S. Estimation of online tool wear in turning processes using recurrence quantification analysis (RQA). In2017 IEEE International Conference on Big Data (Big Data) 2017 Dec 11 (pp. 1755-1759). IEEE.

2016 Harris, B., Radhakrishnan.S., Kamarthi,S. (2016, November), Network Sensitivity Analysis in Sharing Economies, SIAM Conference on Financial Engineering and Mathematics, November 18, 2016, Austin, T

2016 Radhakrishnan S, Kamarthi S. Complexity-entropy feature plane for gear fault detection. In2016 IEEE International Conference on Big Data (Big Data) 2016 Dec 5 (pp. 2057-2061). IEEE.

2016 Radhakrishnan S, Kamarthi S. Convergence and divergence in academic and industrial interests on iot based manufacturing. In2016 IEEE International Conference on Big Data (Big Data) 2016 Dec 5 (pp. 2051-2056). IEEE.

2014 Radhakrishnan S, Duvvuru A, Kamarthi SV. Investigating discrete event simulation method to assess the effectiveness of wearable health monitoring devices. Procedia Economics and Finance. 2014 Jan 1;11: (pp. 838-56).

2014 Radhakrishnan S, Jacob R, Duvvuru A, Kamarthi S. Organizing Patterns and Evolution of Indian Movie Industry. Procedia Computer Science. 2014 Jan 1;36: (pp. 655-9).

2013 Duvvuru A, Radhakrishnan S, More D, Kamarthi S, Sultornsanee S. Analyzing structural & temporal characteristics of keyword system in academic research articles. Procedia Computer Science. 2013 Jan 1;20: (pp. 439-45).

2013 Sultornsanee S, Duvvuru A, Radhakrishnan S, Chowdhary H, Kamarthi S. Phase synchronization based minimum spanning trees for the analysis and visualization of currency exchange markets. Procedia Computer Science. 2013 Jan 1;20: (pp. 460-5).

2011 Sultornsanee S, Radhakrishnan S, Falco D, Zeid A, Kamarthi S. Phase synchronization approach to construction and analysis of stock correlation network. Procedia Computer Science. 2011 Jan 1;6: (pp. 52-6).

Book chapters

2021 Radhakrishnan S, Li W, Kamarthi S. Machine Component Fault Classification Using Permutation Entropy and Complexity Representation of Vibration Signals. InIndustry 4.0 and Advanced Manufacturing 2021 (pp. 289-297). Springer, Singapore.

2018 Radhakrishnan, Srinivasan, Benjamin Harris, and Sagar Kamarthi. "Supply chain resiliency: a review." Supply chain risk management (2018): (pp. 215-235).

Conference / Workshops / Invited Talks

2023 **Keynote Speaker:** Invited by the US Government (NNI's Environmental, Health, and Safety Research Strategy) to share insights on the evolution of research in the field of nanotechnology (Link)

2023 **Invited Speaker:** Leveraging generative AI to improve productivity in consulting domain (at Roland Berger)

2022 **Workshop:** Data visualization workshop for healthcare professionals in "Tufts University School of Medicine Health Informatics & Health Analytics Immersion Program"

2022 **Workshop:** Python-Deep Dive (HIA Workshop Fall Series), Tufts University School of Medicine

2022 **Conference Presentation:** Ensemble Machine Learning Methods To Improve Burden Estimates For Wasting, INFORMS Conference

2021 **Workshop:** Data visualization workshop for healthcare professionals in "Tufts University School of Medicine Health Informatics & Health Analytics Immersion Program"

2021 **Workshop:** Data visualization workshop for healthcare professionals in "Tufts University School of Medicine Health Informatics & Health Analytics Immersion Program"

2020 **Workshop:** MIE Master class workshop. Conducted four workshops on data visualization and Tableau for Mechanical and Industrial Engineering students at Northeastern University

Scientific reviewer

Smart and Sustainable Manufacturing Systems (ASTM journal)
Manufacturing Science and Engineering Conference (ASME conference)
Entropy
PLOS One

Membership in professional organizations

Institute for Operations Research and the Management Sciences (INFORMS)
Institute of Electrical and Electronics Engineers (IEEE)

Teaching

Courses Developed and Taught

IE 6600: Computation and Visualization for Analytics
IE 6400: Foundations of data Analytics (Newly Developed Course)
IE 5374: Data analytics for COVID-19 (Newly Developed Course)
IE 7275: Data Mining
IE 6300: Manufacturing Methods and Processes
MEIE 4701: Industrial Engineering Capstone Design

PhD students

Ming Luo (on going) (Advisor)
Wei Li (on going) (Committee Member)
Sachini Weerasekara (on going) (Committee Member)
Seyed Mohammad Ali Banijamali (Summer 2023) (Committee Member)
Mengkai Xu (Summer 2020) (Committee Member)
Ramin Mohammadi (Spring 2020) (Committee Member)

MS students

Tanmay Gupta (on going) (Advisor)
Jinkun Yao (Summer 2021) (Advisor)
Sachini Weerasekara (Summer 2021) (Co-Advisor)
Yinying Wang (Summer 2021) (Advisor)
Wei Li (Summer 2020) (Co-Advisor)

MS projects

Ishan Palit (Spring 2023) (Advisor)
Sahar Tariq (Spring 2020) (Advisor)
Wei Yu (Fall 2019) (Advisor)
Niyant Dave (Fall 2020) (Advisor)

Undergraduate capstone projects

Adaptive online visual inspection for assembly tasks (2022) (Advisor)
Predicting housing indicators using satellite images (2021) (Co-Advisor)
Mobility aid to assist visually impaired to navigate during a pandemic (2021) (Advisor)
Predicting readmissions of patients with OUD (2020) (Technical Advisor, Design Review Member)
Analysis of Disruptions to Supply Chain Networks (2019) (Technical Advisor)

Session/Track Chair, Coordinator, and Judge

Gordon Engineering Leadership Challenge Project (member of project defense committee)
Mark Andersson (2023)
Daniel Dominguez (2023)
Amine Belarbi (2022)
Jonathan Muteba (2020)
Emelie Burgess (2020)

Awards and scholarships

2018 Northeastern University COE Outstanding Graduate Teaching Award
2017 Northeastern University COE Outstanding Graduate Research Award
2015-2018 Research Assistant (NIST award number 70NANB15H028)

Skills

Programming language: Python, Java, C, C++
CAD software: Autocad, Solidworks, NVIDIA Omniverse
Typesetting: MS Office, Latex
Visualization tools: Tableau, Datawrapper, Flourish
Cloud software: Google Cloud Platform
Computational tools: R, Matlab, Mathematica
Simulation: Arena, Anylogic