CURRICULUM VITAE

KARTHIK SRINIVASAN
karthiks@email.arizona.edu
http://www.karanalytics.com

RESEARCH INTERESTS	Digital health analytics, Preventive care analytics, Healthcare information systems, Network science, Statistical machine learning.

DISSERTATION

Title: Statistical machine learning methods for preventive care and digital health analytics

Committee: Dr Sudha Ram (Chair), Dr Sue Brown, Dr Faiz Currim, Dr Wei Chen

Summary: Preventive care and digital health are two application domains of healthcare analytics. Preventive care analytics is the science of extracting population-level insights from electronic health records to assist preventive care policies. On the other hand, digital health analytics focuses on enhancing individual wellbeing via continuous tracking of health indicators. With rapid development in healthcare big data and sensor technologies, research in these two areas is increasing in importance and complexity. Innovative methods are required to analyze the complex data generated from such systems. My research focuses on addressing the challenges in preventive care and digital health analytics using novel statistical machine learning methods. I use a combination of statistics, network analysis, quantitative modeling and machine learning approaches to develop analytical methods for addressing specific research questions.

EDUCATION

Eller College of Management, University of Arizona, Tucson, US
PhD(Major: MIS, Minor: Statistics)   Aug 2014 - May 2019 (Expected)
CGPA (till date): 3.9/4.0

Indian Institute of Science, Bangalore, India
Master of Management(Major: Business Analytics)   Aug 2011 - July 2013
CGPA: 6.6/8.0

Mumbai University, Mumbai, India
Bachelor of Engineering(Major: Electronics & Telecom) June 2005 - July 2009
Grade: First class

REFEREED JOURNALS

Srinivasan K., Currim F., Ram S. "Predicting high cost patients at point of admission using network science", *Journal of Biomedical Health Informatics (IF:3.85)*, Dec 2017 (Early access).

Lindberg C., **Srinivasan K.**, Gilligan B. et al. "Effects of office workstation type on physical activity and stress", Accepted and forthcoming at *Occupational and Environmental Medicine (IF:3.27)*, Jul 2018.

MANUSCRIPTS UNDER REVIEW

Lee H., Razjouyan J., Nyugen H., Lindberg C., **Srinivasan K.**, et al. "Sensor-Based Sleep Quality Index (SB-SQI): a New Metric to Examine the Association of Office Workstation Type on Stress and Sleep", under review with *Journal of Clinical Sleep Medicine*, Jul 2018.

Razjouyan J., Lee H., Nyugen H., Lindberg C., **Srinivasan K.**, et al. "Wellbuilt for wellbeing: Why Controlling Relative Humidity Matters for Our Health?", under review with *New England Journal of Medicine*, Jul 2018.

WORKING
PAPERS

Srinivasan K., Currim F., Ram S. et al. "Statistical Modeling Methods for Wearable Data Analytics: Application in Workplace Sound-Wellbeing Modeling", to be submitted to *Information Systems Research*.

Srinivasan K., Currim F., Ram S. "Analyzing Incomplete Data with Block-wise Missing Patterns", to be submitted to *Information Systems Research*.

WORK IN
PROGRESS

Srinivasan K., Currim F., Ram S. "Predicting diseases using wearable sensors", Work-in-progress (Data collection).

REFEREED
CONFERENCE
PROCEEDINGS

Srinivasan K., Currim F., Ram S. et al. "Using digital health wearable devices to understand the relationship between sound levels and wellbeing: A segmented mixed-effects regression approach", *Proceedings of the 17th Annual Workshop on Information Technology, Dec 2017.*

Srinivasan K., Currim F., Ram S. et al. "A regularization approach for identifying cumulative lagged effects in smart health applications", *Proceedings of the 7th International Conference on Digital Health*, pp 99-103, ACM, Jul 2017.

Srinivasan K., Currim F., Ram S. et al. "Feature importance and prediction modeling for multi-source healthcare data with missing values", *Proceedings of the 6th International Conference on Digital Health*, ACM, Apr 2016. (**Best paper award**)

Srinivasan K., Ram S. "Indoor environmental effects on individual wellbeing", *Proceedings of the 6th International Conference on Digital Health*, Apr 2016. (Extended Abstract)

Raturi V., **Srinivasan K.**, Narulkar G., Chandrashekharaiah A., and Gupta A. "Analyzing inter-modal competition between high speed rail and conventional transport systems: A game theoretic approach", *Proceedings of the 2nd Conference of Transportation Research Group of India*, Dec 2013.

INVITED TALKS
AND
PRESENTATIONS

- Predicting high cost patients at point of admission using network science, INFORMS Annual Meeting, Phoenix (Nov 2018).
- Predicting high cost patients at point of admission using network science, Eller College Doctoral Student Workshop, University of Arizona, Tucson (Apr 2018).
- Using digital health wearable devices to understand the relationship between sound levels and wellbeing: A segmented mixed-effects regression approach, Workshop on Information Technology, Seoul (Dec 2017).
- A regularization approach for identifying cumulative lagged effects in smart health applications, International Conference on Digital Health, London (Jul 2017).

- Knowledge discovery using Disease Comorbidity networks, INFORMS Annual Meeting, Nashville (Nov 2016).

- Feature importance and prediction modeling for multi-source healthcare data with missing values, International Conference on Digital Health, Montreal (Mar 2016).

- Data analysis with R *(one day workshop)*, Management Information Systems Graduate Association, University of Arizona, Tucson (Feb 2016).

- Data science and technical social networking *(invited talk)*, K J Somaiya College of Engineering, Mumbai (Jul 2015).

WHITE PAPERS

Ram S., **Srinivasan K.**, Chagarlamudi S. "Analysis of Chronic Disease Related Patient Visits in Arizona Hospitals". *Making Action Possible dashboard report, 2017*.

SELECTED GRADUATE COURSEWORK

Topics in information systems
Enterprise database management
Information systems analysis and design
Business data communication and networking
Readings in MIS

Research methodology
Design Science Research Methodologies
Models for Quantitative Analysis
Behavioral Research Methodologies

Machine learning and data mining
Web computing and mining
Big data analytics
Statistical machine learning
Advanced topics in computational intelligence
Computational social science

Statistics
Theory of probability
Theory of statistics
Survival analysis
Multilevel modeling
Statistical computing

CERTIFICATES

Certificate in College Teaching (10-unit program)   Jan 2018 - Dec 2018
(Expected)
Office of Instruction and assessment, University of Arizona

TEACHING

Primary instructional role:

MIS 331 - Database Management Systems   Fall 2017
Number of students: 59
Overall teaching effectiveness: 3.8/5.0

MIS 111 - Computers and Internetworked Society   Summer II 2016
Number of students: 17
Overall teaching effectiveness: 4.7/5.0

Teaching assistant:

MIS 587 - Business Intelligence (Online)
Spring 2016, Fall 2016, Spring 2017, Spring 2018, Fall 2018

HONORS	• James F. LaSalle Teaching Excellence Award for exemplary student instructor (2017).
	• Best paper award in 6th International Conference on Digital Health (2016).
	• Winner of *International students got talent, University of Arizona* (2014).
RESEARCH GRANTS	• Arizona Making Action Possible Dashboard (AZMAP) white paper grant of $ 7500 (2017).
	• Eller Small Grant Research data grant of $ 1000 (2016).
	• Graduate and Professional Students Council (GPSC) research travel grants (2015, 2016, 2017).
MANUSCRIPT REVIEWING	• European Conference on Information Systems ECIS (2018)
	• International Conference on Information Systems (2018)
	• BMJ Open (2018)
	• Journal of the Association for Information Systems (2018)
SERVICE	• Volunteer at International conference of information systems (2017).
	• Proctor for MIS department PhD qualifying exam (2016-17).
	• College representative in Graduate and Professional Students Council (GPSC) (2016).
	• Big brother at Tucson chapter of Big Brothers and Big Sisters of America organization (2016-17).
	• Volunteer/co-Instructor for R workshops organized by non-profit organization - Software & Data Carpentry (2015-).
PROFESSIONAL MEMBERSHIPS	Association for Information Systems (AIS), Institute for Operations Research and the Management Sciences (INFORMS).
PROGRAMMING & TOOLS	R, Python, SQL, Spark, Cobol, MongoDB, Impala, Hive, Hue, Neo4j, SPSS, SAS, Gephi, Tableau, Atacama DQA, Google Analytics.
WORK EXPERIENCE	**MIS department, Eller College of Management, University of Arizona** Research group: **INSITE** Center for Business Intelligence and Analytics Role: Research Associate Aug 2014-
	Robert Bosch Engineering & Business Solutions Limited, India Team: Data Analytics Role: Data Modeler and Analyst Aug 2013-July 2014
	Accenture Services Private Limited, India Project: Business Insurance

Role: Software Developer   Dec 2009-July 2011

Robert Bosch, India (*Intern*)
Team: Data Analytics   Jan 2013-June 2013

ICICI Bank, India (*Intern*)
Team: Business Intelligence Unit   May 2012-Jun 2012

Bhabha Atomic Research Center, India (*Intern*)
Department: Nuclear Physics   Jun 2008-Jun 2009

REFERENCES   Sudha Ram *(Faculty Advisor)*   E-mail: ram@eller.arizona.edu
Anheuser-Busch Chair in MIS, Entrepreneurship and Innovation
Director - INSITE Center for Business Intelligence and Analytics
Department of Management Information Systems
Eller College of Management, University of Arizona

Susan Brown   E-mail: suebrown@eller.arizona.edu
McClelland Professor of MIS and Department Head
Department of Management Information Systems
Eller College of Management, University of Arizona

Faiz Currim   E-mail: fcurrim@eller.arizona.edu
Assistant Director, INSITE Center for Business Intelligence and Analytics
Department of Management Information Systems
Eller College of Management, University of Arizona