

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 Susan 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., et al. “Effects of office workstation type on physical activity and stress”, *Occupational and Environmental Medicine (IF:3.27)*, Jul 2018.
Ghahramani A., Pantelic J., Lindberg C., Mehl M., Srinivasan K., et al. “Learning occupants workplace interactions from wearable and stationary ambient sensing systems”, *Applied Energy (IF:5.61)*, Nov 2018.

MANUSCRIPTS
UNDER REVIEW

Srinivasan K., Currim F., Ram S. “Analyzing incomplete data with block-wise missing patterns”, under review with *Information Systems Research*, Sep 2018.

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 *Sensors*, 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 *Indoor Air*, Sep 2018.

WORKING
PAPERS

Srinivasan K., Currim F., Ram S. et al. “Determining the Effects of Sound Levels on Physiological Wellbeing at Workplace An Observational Study using Wearable Devices”, to be submitted to *Management Information Systems Quarterly*.

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).
 - Topics in data science, hadoop, and programming for data science, University of Arizona, Tucson (Sep 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*, Nov 2018.

- SELECTED MEDIA COVERAGE OF RESEARCH
- *Workers in open-plan offices more active*, BBC (Aug 2018).
 - *Staff in open plan offices are fitter and less stressed*, The Guardian (Aug 2018).

SELECTED GRADUATE COURSEWORK

Topics in information systems

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

Machine learning and data mining

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

Research methodology

Design Science Research Methodologies
 Models for Quantitative Analysis
 Behavioral Research Methodologies

Statistics

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

| | | |
|----------------------|--|---------------------|
| CERTIFICATES | Certificate in College Teaching (10-unit program) (Expected) Office of Instruction and assessment, University of Arizona | Jan 2018 - Dec 2018 |
| TEACHING | <i>Primary instructional role:</i> | |
| | MIS 331 - Database Management Systems Number of students: 59 Overall teaching effectiveness: 3.8/5.0 | Fall 2017 |
| | MIS 111 - Computers and Internetworked Society Number of students: 17 Overall teaching effectiveness: 4.7/5.0 | Summer II 2016 |
| | <i>Teaching assistant:</i> | |
| | MIS 587 - Business Intelligence (Online) Spring 2016, Fall 2016, Spring 2017, Spring 2018, Fall 2018 | |
| HONORS | <ul style="list-style-type: none"> • James F. LaSalle Teaching Excellence Award for exemplary student instructor (2017). • Best paper award in 6th International Conference on Digital Health (2016). • Winner of <i>International students got talent, University of Arizona</i> (2014). | |
| RESEARCH GRANTS | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 programming workshops organized by <i>Software & Data Carpentry</i> (2015-17). | |

PROFESSIONAL MEMBERSHIPS Association for Information Systems (AIS), Association for Computing Machinery (ACM), 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: currim@email.arizona.edu
Assistant Director, INSITE Center for Business Intelligence and Analytics
Department of Management Information Systems
Eller College of Management, University of Arizona

Wei Chen E-mail: weichen@email.arizona.edu
Assistant Professor of MIS
Department of Management Information Systems
Eller College of Management, University of Arizona