

Sharan Srinivas

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ACADEMIC EXPERIENCE

- Aug 2017 -** **Assistant Professor**
Department of Industrial & Manufacturing Systems Engineering,
College of Engineering, and
Department of Marketing, Robert J. Trulaske College of Business
University of Missouri, Columbia, MO
- Aug 2018 -** **Affiliate Faculty**
Institute for Data Science and Informatics, University of Missouri
- Jun 2018 -** **Visiting Faculty**
Department of Production, Operations and Logistics Management
University of Passau, Germany
- Aug - Dec 2015** **Instructor**
Department of Industrial and Manufacturing Engineering
The Pennsylvania State University, University Park, PA

EDUCATION BACKGROUND

- Aug 2017** **Ph.D. in Industrial Engineering & Operations Research**
The Pennsylvania State University, University Park, PA
*Thesis: Analytics-Driven Design of Multi-Phase Multi-Provider
Appointment System for Patient Scheduling*
Advisor: Prof. A. 'Ravi' Ravindran
- Aug 2015** **MEng. in Industrial Engineering & Operations Research**
Pennsylvania State University, University Park, PA
- Aug 2013** **MS in Industrial and Systems Engineering, August 2011**
Binghamton University, State University of New York, NY
- May 2011** **BE in Industrial Engineering, May 2011**
College of Engineering, Guindy (CEG), Anna University, India

RESEARCH INTERESTS

- Health informatics and analytics
- Applied operations research for logistics and transportation systems
- Machine learning algorithms for manufacturing and service systems
- Decision support tools for supply chain management

REFEREED JOURNAL PUBLICATIONS

1. **Srinivas, S.** (2020). "A Machine Learning-Based Approach for Predicting Patient Punctuality in Ambulatory Care Centers," *International Journal of Environmental Research and Public Health*, 17(10), 3703.
2. **Kambli, A., **Sinha, A. A., & **Srinivas, S.** (2020). "Improving campus dining operations using capacity and queue management: A simulation-based case study," *Journal of Hospitality and Tourism Management*, 43, 62-70.
3. *Salama, M., & **Srinivas, S.** (2020). "Joint optimization of customer location clustering and drone-based routing for last-mile deliveries," *Transportation Research Part C: Emerging Technologies*, 114, 620-642.
4. **Srinivas, S.,** & Ravindran, A. (2020). Designing schedule configuration of a hybrid appointment system for a two-stage outpatient clinic with multiple servers. *Health Care Management Science* (accepted), DOI: 10.1007/s10729-019-09501-4.
5. Rajendran, S., & **Srinivas, S.** (2019). Hybrid Ordering Policies for Platelet Inventory Management under Demand Uncertainty. *IIE Transactions on Healthcare Systems Engineering* (accepted), DOI: 10.1080/24725579.2019.1686718.
6. Nivethitha, S., & **Srinivas, S.** (2019). "Modeling the Impact of Employee Engagement and Happiness on Burnout and Turnover Intention Among Blue-Collar Workers at A Manufacturing Company," *Benchmarking: An International Journal*, 27(2), 499-516.
7. **Srinivas, S.,** & Chandrasekharan, R. (2019). "Community Detection and Influential Node Identification in Complex Networks using Mathematical Programming," *Expert Systems with Applications*, 135(30), 296-312.
8. *Smith, D., & **Srinivas, S.** (2019). "A Simulation-based Evaluation of Warehouse Check-in Strategies for Improving Inbound Logistics Operations," *Simulation Modelling Practice and Theory*, 94, 303-320.
9. **Srinivas, S.,** and Rajendran, S. (2019) "Topic-based Knowledge Mining of Online Student Reviews for Strategic Planning in Universities," *Computers and Industrial Engineering*, 128, 974-984.
10. **Srinivas, S.,** Rajendran, S., **Anand, K., & Chockalingam, A. (2018). "Self-reported Depressive Symptoms in Adolescence Increase the Risk for Obesity and High BP in Adulthood," *International Journal of Cardiology*, 269, 339-342.
11. **Srinivas, S.,** and Ravindran, A. (2018) "Optimizing Outpatient Appointment System using Machine Learning Algorithms and Scheduling Rules: A Prescriptive Analytics Framework," *Expert Systems with Applications*, 102, 245-261.
12. **Srinivas, S.,** & Khasawneh, M. (2017) "Design and analysis of a hybrid appointment system: An optimization approach," *International Journal of Operational Research*, 29(3), 376-399.
13. **Srinivas, S.,** Mahdi, M., and Bastian, N.D. (2017) "Optimizing student team and corporate job assignments for Holy Family Academy," *Interfaces*, 47(2), 163-174.

14. **Srinivas, S.** (2016) "Evaluating the impact of nature of patient flow and patient availability on the performance of appointment scheduling rules in outpatient clinics," *International Journal of Operations and Quantitative Management*, 22(2), 93-118.
15. Rajendran, S., **Srinivas, S.**, and Saha, C. (2015) "Analysis of Operations of Port using Mathematical and Simulation Modelling," *International Journal of Logistics Systems and Management*, 20(3), 325-347.
16. Bastian, N. D., McMurry, P., Fulton, L. V., Griffin, P. M., Cui, S., Hanson, T., and **Srinivas, S.** (2015) "The AMEDD Uses Goal Programming to Optimize Workforce Planning Decisions," *Interfaces*, 45(4), 305-324.

CONFERENCE PROCEEDINGS, ABSTRACTS AND PRESENTATIONS

1. *Salah, H., and **Srinivas, S.** "Predicting Provider Service Time in Outpatient Clinics Using Artificial Intelligence-Based Models," International Conference on Computers and Industrial Engineering, San Francisco, CA, June 5 - 6, 2020.
2. **Srinivas, S.** "Predicting Patient Punctuality Using Machine Learning Algorithms," INFORMS Annual Meeting, Seattle, WA, October 20-23, 2019.
3. Madankumar, S., & **Srinivas, S.** "A Hybrid Classification Algorithm based on Linear Regression and Linear Programming for Predicting Breast Cancer," International Conference on Business Analytics and Operations Research, Karnataka, India, June 14 - 16, 2019
4. **Srinivas, S.**, McGarvey, R., Rajendran, S., Noble, J., Oveysi, Z. "Tactical Decision-Making for Made-to-Order Electrical Hardware Products using Data Analytics", IISE Annual Conference, Orlando, FL, May 19 - 21, 2019.
5. **Ullah, M., **Nazareth, R., and **Srinivas, S.** "Service Quality and Expansion Cost Trade-Off Analysis in Emergency Department", IISE Annual Conference, Orlando, FL, May 19 - 21, 2019.
6. **Kambli, A., **Sinha, A., Chowdhury, Z., and **Srinivas, S.** "Optimizing Campus Dining Operations by Capacity Reallocation and Queue Management", IISE Annual Conference, Orlando, FL, May 19 - 21, 2019.
7. **Srinivas, S.**, **Anand, K., and Chockalingam, A. "Optimism in Adolescence Affects Cardiovascular Outcomes in Adulthood" American College of Cardiology's 68th Annual Scientific Session, New Orleans, LA, March 16 - 18, 2019
8. **Anand, K., **Srinivas, S.**, Rajendran, S., and Chockalingam, A. "Moodiness and Depressive Symptoms in Adolescence Predicts Obesity and Hypertension in Adulthood," International Academy of Cardiology Annual Scientific Sessions 2018 23rd World Congress on Heart Disease, Boston, MA, July 27 - 29, 2018.
9. **Anand, K., Rajendran, S., **Srinivas, S.**, and Chockalingam, A. "Pessimistic Outlook in Adolescence Increases Risk for Obesity and Hypertension in Early Adulthood," International Academy of Cardiology Annual Scientific Sessions 2018 23rd World Congress on Heart Disease, Boston, MA, July 27 - 29, 2018.

10. **Srinivas, S.**, *"Improving Career Outcomes in STEM Fields using Network Analysis,"* IISE Annual Conference, Orlando, FL, May 19-22, 2018.
11. ***Smith, D.**, and **Srinivas, S.** *"Improving Warehouse Receiving Process using Effective Check-In Policies,"* IISE Annual Conference, Orlando, FL, May 19-22, 2018.
12. ****Kambli, A.**, and **Srinivas, S.** *"A Review on Improving Food Access in the United States,"* IISE Annual Conference, Orlando, FL, May 19-22, 2018.
13. **Choi, S.**, and **Srinivas, S.** *"Outpatient Appointment Scheduling with Time-Varying No-shows,"* Production and Operations Management Society (POMS) Annual Conference, Houston, TX, May 5, 2018.
14. **Srinivas, S.**, and **Ravindran A.**, *"Systematic Review of Opportunities to Improve Outpatient Appointment Systems,"* IISE Annual Conference, Pittsburgh, PA, May 19-22, 2017.
15. **Srinivas, S.**, and **Ravindran, A.**, *"Smart Appointment Scheduling Rules for Outpatient Clinics,"* INFORMS Annual Meeting, Houston, TX, October 22-25, 2017.
16. **Rajendran, S.**, and **Srinivas, S.**, *"Determining Risk Type of Customers at Financial Institutions using Machine Learning Algorithms,"* INFORMS Annual Meeting, Houston, TX, October 22-25, 2017.
17. **Srinivas, S.**, and **Ravindran A.**, *"A Simulated Annealing Approach for the Design of Multi-Stage Multi-Provider Hybrid Appointment System,"* IISE Annual Conference, Pittsburgh, PA, May 19-22, 2017.
18. **Srinivas, S.**, **Rajendran, S.**, and **Prabhu V.**, *"An Experiential Learning Approach to Teach Undergraduate Students,"* IISE Annual Conference, Pittsburgh, PA, May 19-22, 2017.
19. **Srinivas, S.**, and **Ravindran A.**, *"Design of Multi-stage Multi-provider Hybrid Appointment System For Patient Scheduling under Uncertainty,"* INFORMS Annual Meeting, Nashville, TN, November 13-16, 2016.
20. **Srinivas, S.**, and **Ravindran A.**, *"Hybrid Appointment System for Patient Scheduling under Demand Uncertainty,"* Institute of Industrial and Systems Engineers Conference, Nashville, TN, May 30-Jun 2, 2015.
21. **Srinivas, S.**, *"Design and Analysis of Hybrid Appointment System for Patient Scheduling,"* International Symposium in honor of Dr. Ravindran, India, March 12-13, 2015.
22. **Srinivas, S.**, **Saha, C.**, **Won Yoon, S.**, **Khasawneh, M. T.**, and **Srihari, K.**, *"Analysis of Campus Traffic Congestion during Move-in Days Using Discrete Event Simulation,"* Industrial and Systems Engineering World Conference, Washington DC, Sep 16-18, 2012.
23. **Srinivas, S.**, and **Rajendran, S.**, *"Comparative Study of Genetic Algorithm based Approaches for Balancing Assembly Line,"* Industrial and Systems Engineering World Conference, Washington, DC, Sep 16-18, 2012.
24. **Alqudah, S.**, **Srinivas S.**, **Al-Fandi, L.**, **Khasawneh, M. T.**, and **Srihari, K.**, *"Using Process Engineering to Improve Work Flow and Office Organization,"* 2012 FALI Conference, COCOA Beach, May 10-12, 2012.

* indicates advisee of Srinivas, S.

** indicates research assistant of Srinivas, S.

25. **Srinivas, S.,** Rajendran, C., and Rajmohan, M. “Genetic Algorithm based approach to determine base-stock level in a serial supply chain with multiple objectives,” International Conference on Operational Research for Urban and Rural Development, Madurai, India, Dec 15-17, 2010.

PEER-REVIEWED BOOK CHAPTERS

1. **Srinivas, S.,** and Rajendran, S. (2017), “A Data-Driven Approach for Multi-Objective Loan Portfolio Optimization using Machine Learning Algorithms and Mathematical Programming,” In Big Data Analytics Using Multiple Criteria Decision Making Models. Ramanathan, R., et al. (Eds.), CRC press.
2. Goyal, R.#, Ananthkrishnan, V.#, **Srinivas, S.,** and Prabhu, V. (2017), “Multi-Criteria Evaluation of Predictive Analytics for Electric Utility Management,” In Big Data Analytics Using Multiple Criteria Decision Making Models. Ramanathan, R., et al. (Eds.), CRC press.

Note: # indicates mentee of Srinivas, S.

TRADE PUBLICATIONS AND PRESS MENTIONS

- Depressive Symptoms In Adolescence Increase The Risk For Obesity And High BP Decades Later In Adulthood, [Science Trends](#), Nov 2018
- Get Your Truckers Moving, [ISE Magazine](#), September 2018 issue.
- The Doctor Will See You...But When?, [BingU News](#), November 2017

FUNDED PROJECTS

- Topic: Optimizing Make-to-order Inventory – CELDi Project
Schneider Electric
 - PI: Ron McGarvey, Co-PI: Sharan Srinivas, Suchithra Rajendran, James Noble;
 - Total Funded: \$35,000; Shared Credit: 20%
- Topic: Optimizing warehouse operations – CELDi Project
Schneider Electric
 - PI: Ron McGarvey, Co-PI: Sharan Srinivas, Suchithra Rajendran, James Noble;
 - Total Funded: \$65,000; Shared Credit: 15%
- Topic: Consortium for Healthcare Operations Management and Engineering Analytics
MU Engineering Industrial Consortia Grants, University of Missouri - Columbia, 2018
 - Investigators: Sharan Srinivas and Suchithra Rajendran; Total Funded: \$20,000
- Topic: Cardiovascular Disease Prevention in Adolescents using Individual-Specific Non-Medical Interventions
Richard Wallace Faculty Incentive Grant, University of Missouri - Columbia, 2017
 - PI: Sharan Srinivas; Total Funded: \$4000; Shared Credit: n.a
- Topic: The Role of Industrial Engineering in Service Systems
Service Enterprise Engineering Initiative, Pennsylvania State University, 2016
 - PI: Sharan Srinivas; Total Funded: \$5000; Shared Credit: n.a

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** indicates research assistant of Srinivas, S.

GRANT PROPOSALS UNDER REVIEW

- Topic: Predicting Burnouts among Teachers in Public Schools using Machine Learning Tier 3 Strategic Initiative, UM System
 - PI: Suchithra Rajendran, Co-PI: **Sharan Srinivas**
 - Total Requested: \$58,668,59; Shared Credit: 35%
- Topic: Predicting Adolescent's Long-Term Cardiovascular Disease using Machine Learning National Institutes of Health
 - PI: **Sharan Srinivas**, Co-PI: Eduardo Simoes, Anand Chockalingam
 - Total Requested: \$235,089; Shared Credit: 70%
- Topic: Optimizing Production Planning and Scheduling Operations for Sock Manufacturing Hanes Inc.
 - PI: **Sharan Srinivas**, Co-PI: James Noble, Jung Ha-Brookshire
 - Total Requested: \$229,814; Shared Credit: 60%

INDUSTRY PROJECTS

- **IBM, NY**
Predictive Analytics for Identifying and Evaluating Risks across Multiple Alert Sources from Non-Stationary Environments, Jan 2019 – Present
- **Roche Pharmaceuticals, USA**
Economic Evaluation of Tumor Board Decision Support System, Aug – Dec 2018

TEACHING

University of Missouri, Columbia, MO

Department of Industrial and Manufacturing Systems Engineering

- IMSE 4370/7370: Service Systems Engineering and Management
 - Fall 2017 - Student evaluation of teaching effectiveness: 4.40/5.0
 - Spring 2020 (100% online) - Student evaluation of teaching effectiveness: 4.50/5.0
- IMSE 4410/7410: Data Engineering and Predictive Modeling
 - Fall 2018 – Student evaluation of teaching effectiveness 4.72/5.0
 - Fall 2019 – Student evaluation of teaching effectiveness 4.22/5.0
 - Fall 2020 –
- IMSE 4280/7280: Systems Simulation
 - Fall 2018 – Student evaluation of teaching effectiveness 4.76/5.0
 - Fall 2019 – Student evaluation of teaching effectiveness 4.10/5.0
- IMSE 4280/7280: Systems Simulation Laboratory
 - Fall 2018 – Student evaluation of teaching effectiveness 4.84/5.0
 - Fall 2019 – Student evaluation of teaching effectiveness 4.16/5.0

University of Missouri, Columbia, MO
Department of Marketing

- MRKTNG 4910/7910: Data Analytics and Machine Learning for Business (formerly known as MRKTNG 4201-02: Data Analytics)
 - Spring 2018 - Student evaluation of teaching effectiveness: 4.05/5.0
 - Spring 2019 - Student evaluation of teaching effectiveness: 4.41/5.0
 - Spring 2020 - Student evaluation of teaching effectiveness: 4.92/5.0
- MRKTNG 8810: Python for Marketing Analytics
 - Spring 2020 - Student evaluation of teaching effectiveness: 4.92/5.0

University of Passau, Germany

- Data Engineering and Predictive Modeling (Summer 2019)

Pennsylvania State University, University Park, PA
Department of Industrial and Manufacturing Engineering

- IE 460: Service Systems Engineering
 - Fall 2015 - Student evaluation of instructor effectiveness: 5.20/7.0

INVITED TALKS

- Building your First Machine Learning Model, Innovation in Supply Chain and Logistics Conference, Center for Excellence in Logistics and Distribution, Missouri, March 7, 2019.
- Text Mining of Online Customer Reviews, IMSE Seminar, University of Missouri-Columbia, February 11, 2019.
- Data Analytics and Operations Research for Service Systems, IMSE Seminar, University of Missouri-Columbia, March 19, 2018.
- Using Electronic Medical Records for Data-Driven Decision-Making at Hospitals, IMSE Seminar, University of Missouri-Columbia, September 18, 2017.
- Application of Engineering Principles to Service Systems. Enterprise Integration Consortium Industry Advisory Board Meeting, Penn State, October 30, 2014.

HONORS AND AWARDS

- **Winemiller Award** for research excellence in Data Analytics, University of Missouri, 2020
- **Bloss Faculty Enhancement Grant Award**, University of Missouri, 2019
- **University of Missouri Faculty Scholar**, University of Missouri System, 2019
- **Winemiller Award** for research excellence in Data Analytics, University of Missouri, 2018
- **Distinguished Graduate Fellowship** for academic achievements and research excellence, Pennsylvania State University, 2016-17
- **Koopman Prize** for outstanding publication in military operations research, Institute for Operations Research & Management Sciences (INFORMS), 2016
- **Service Enterprise Engineering Fellowship**, Service Enterprise Engineering Initiative, 2015
- **Best Paper Award**, Healthcare Systems Track: "Design and Analysis of Hybrid Appointment System for Patient Scheduling," International Symposium in honor of Dr. Ravindran, India, March 12, 2015.
- **Member**, Tau Beta Pi, Engineering Honor Society
- **Member**, Alpha Pi Mu, Industrial Engineering Honor Society

TECHNICAL SKILLS

- **Programming Language:** C++, Python
- **Optimization and Simulation Software:** CPLEX, Lingo, Excel Solver, Arena, Simio
- **Statistical and Analytics Software:** MINITAB, R, SAS, Python, Tableau, Gephi
- **Certification:** Lean Six Sigma Black Belt

ADVISING

Graduate Students, University of Missouri

- Mohamed Salama, Ph.D. IE, current (advisor)
- Haya Salah, Ph.D. IE, current (advisor)
- Shitao Yu, Ph.D. IE, current (research mentor)
- Zeynab Oveyesi, Ph.D. IE, current (committee member)
- Dustin Smith, M. S. IE, Spring 2019 (advisor)
- Alexander Jackson, M.S. IE, Spring 2019 (advisor)
- Austin Laramie, M.S. IE, Spring 2018 (committee member)
- Ashish Kambli, M.S. IE, Summer 2019 (committee member)
- Jaiharan Venkatesan, M.S. IE, May 2018 (research mentor)

Undergraduate Students, University of Missouri

- John Tocco, B.S. IE, Spring 2019 (project advisor)
- Alex Stone, B.S., IE, Spring 2019 (project advisor)
- Dustin Smith, B. S. IE, Spring 2018 (mentor)
- Joshua Zack, B. S. IE, Spring 2018 (mentor)
- Abdulah Sibalo, B. S. Economics, Spring 2018 (mentor)

PROFESSIONAL SERVICE/ACTIVITIES

International

- Member, Institute for Operations Research and Management Sciences (INFORMS)
- Member, Institute of Industrial and Systems Engineers (IISE)
- Judge, IISE Operations Research Division Undergraduate Student Paper Competition, 2020
- Director, IISE Operations Research Division, 2020 - 2022

Editorial

- **Editorial Assistant**, Service Systems Engineering and Management. by Ravindran, A., Griffin, P.M., and Prabhu, V., CRC Press.
- **Editorial Assistant**, Multiple Criteria Decision Making in Supply Chain Management. (2016). Ravindran, A. (Ed.), CRC Press.

Journal Reviewer

- Journal of Intelligent Manufacturing (2020 - present)
- Health Systems (2020 - present)
- Artificial Intelligence (2019 - present)
- Expert Systems with Applications (2019 - present)
- Nature Partner Journals Digital Medicine (2019 - present)
- Computers and Industrial Engineering (2017 - present)

- Networks and Spatial Economics (2017 – present)
- International Journal of Production Research (2017 – present)

Conference Track Chair/Program Committee

- **Session Chair**, INFORMS Annual Meeting, Seattle, WA, October 20-24, 2019
- **Session Chair**, INFORMS Annual Meeting, Houston, TX, October 22-25, 2017
- **Session Chair**, IISE Annual Conference, Pittsburgh, PA, May 19-22, 2017.
- **Session Chair**, INFORMS Annual Meeting, Nashville, TN, November 13-16, 2016.

Departmental Service

- Note-taker, IMSE monthly faculty meeting, 2020 - present
- Participated in Management Department's faculty candidate interviews, 2020
- Member, Course Planning Committee, Department of Industrial and Manufacturing Systems Engineering, University of Missouri – Columbia, 2019 - Present
- Member, Curriculum Development Committee, Department of Industrial and Manufacturing Systems Engineering, University of Missouri – Columbia, 2017 - Present
- Member, Marketing Analytics Committee, Department of Marketing, University of Missouri – Columbia, 2017 – Present
- Visited University of Passau (Germany), Indian Institute of Technology-Madras, Indian Institute of Management-Trichy to promote and attract potential graduate students to MU IMSE, 2018 and 2019
- Participated in Marketing Department's faculty candidate interviews, 2018 and 2019
- Participated as a guest speaker in IMSE graduate seminar, 2017-2019
- Vice President, INFORMS: Penn State Chapter, Department of Industrial and Manufacturing Systems Engineering, Pennsylvania State University, 2015-2017
- Manager, Service Engineering and Applied Optimization lab, Department of Industrial and Manufacturing Systems Engineering, Pennsylvania State University, 2014-2017
- Webmaster, Enterprise-Integration Consortium, Department of Industrial and Manufacturing Systems Engineering, Pennsylvania State University, 2014-2017

Division/College Service

- Serve on College of Engineering Annual Lectureship Committee, 2019-present
- Participated in Trulaske College of Business faculty candidate interviews, 2019-2020
- Served on Global Supply Chain Management Certificate development committee, 2018
- Served on Global Supply Chain Management Certificate advisory committee, 2018

Service to MU Campus

- Led the operations team that conducted a process reengineering study of the MU Emergency Department to reduce overcrowding and patient waiting time
- Advised a group of graduate students in a six-sigma based process improvement study for improving service responsiveness at MU Campus Dining Services

Service to the UM System

- Participated in UM Faculty Scholars, 2019-2020 Cohort