Anahita Khojandi

Department of Industrial and Systems Engineering, University of Tennessee
521 Tickle Building, 851 Neyland Drive, Knoxville, TN 37996
khojandi@utk.edu

EDUCATION

Ph.D. in Industrial Engineering, 2014
University of Pittsburgh, Pittsburgh, PA
Advisors: Drs. Lisa M. Maillart and Oleg A. Prokopyev
Thesis: "Optimizing Implanted Cardiac Device Follow-Up Care"

M.S. in Industrial Engineering, 2009
University of Pittsburgh, Pittsburgh, PA

B.S. in Industrial Engineering, 2008
Sharif University of Technology, Tehran, Iran

ACADEMIC EXPERIENCE

University of Tennessee, Knoxville (UTK)
Department of Industrial and Systems Engineering
Assistant Professor Aug. 2014–July 2020
Associate Professor Aug. 2020–present

Bredesen Center for Interdisciplinary Research and Graduate Education
Adjunct Assistant Professor Jan. 2019–July 2020
Joint Associate Professor Aug. 2020–present

HONORS AND AWARDS

Best Paper Award of the Year, OMEGA – The International Journal of Management Science, 2020

Third place, Operations Research Division Undergraduate Student Research Dissemination Award, IISE, 2020 (awarded to mentored student Kalina Scarbrough)

Outstanding Faculty Award, Department of Industrial and Systems Engineering, UTK, 2020

Recipient, Success in Multidisciplinary Research Award for Health Innovation Technology & Simulation (HITS) Lab, UTK, 2019

Attendee, NSF Workshop on Future Directions in Service, Manufacturing and Operations Research, Sponsored by the NSF Operations Engineering Program, Dallas, Texas, March 29-31, 2019

First place, Operations Research Division Undergraduate Student Research Dissemination Award, IISE, 2017 (awarded to mentored student Danika Dorris)

Fellow, Center for Transportation Research, UTK, 2016

Best Track Paper, Engineering Economic Analysis, ISERC, 2016

Honorable Mention, George B. Dantzig Dissertation Award, INFORMS, 2014

Attendee, New Faculty Teaching Institute, UTK, 2014

Finalist, Lee Lusted Award, Society for Medical Decision Making (SMDM), 2013

Recipient, Outstanding Research Assistant Award, Department of Industrial Engineering, University of Pittsburgh, 2013

Recipient, Outstanding Teaching Assistant Award, Department of Industrial Engineering, University of Pittsburgh, 2012

Recipient, "Exceptional Talents Program" Award at Sharif University of Technology through which top ranked senior students are automatically admitted into Master's programs, 2008

REFEREED PAPERS

(†: Directly supervised undergraduate/graduate students; ‡: Served as MS/PhD committee member)

1. Liu, Z.†, **A. Khojandi**, A. Mohammed, X. Li, L.K. Chinthala, R.L. Davis, R. Kamaleswaran. HeMA: A Hierarchically Enriched Machine Learning Method for Managing False Alarms in Real Time: A Sepsis Prediction Case Study. *Computers in Biology and Medicine*, 2021 (forthcoming).
2. Tirpak, A., J. Hathaway, **A. Khojandi**, M. Weathers‡, T.H. Epps. Building Resiliency to Climate Change Uncertainty Through Bioretention Design Modifications. *Journal of Environmental Management*, 2021 (forthcoming).
3. Baucum, M.†, **A. Khojandi**, R.K. Vasudevan. Improving Deep Reinforcement Learning with Transitional Variational Autoencoders: A Healthcare Application. *IEEE Journal of Biomedical and Health Informatics*, 2020 (forthcoming).
4. Mohammed, A., F. van Wyk†, L.K. Chinthala, **A. Khojandi**, R.L. Davis, C.M. Coopersmith, R. Kamaleswaran. Temporal Differential Expression of Physiomarkers Predicts Sepsis in Critically Ill Adults. *Shock: Injury, Inflammation, and Sepsis: Laboratory and Clinical Approaches*, 2020 (forthcoming).
5. Wang, Y., N. Masoud, **A. Khojandi**. Real-Time Sensor Anomaly Detection and Recovery in Connected Automated Vehicle Sensors, *IEEE Transactions on Intelligent Transportation Systems*, 2020 (forthcoming).
6. Barah, M.†, **A. Khojandi**, X. Li, J. Hathaway, O. Omitaomu. Optimizing Green Infrastructure Placement Under Precipitation Uncertainty. *Omega: The International Journal of Management Science*, 2020 (forthcoming).
7. Watts, J.†, **A. Khojandi**, O. Shylo, R. Ramdhani. Machine Learning's Application in Deep Brain Stimulation for Parkinson's Disease: A Review. *Brain Sciences*, 10(11), 809, 2020.
8. Liu, Z.†, X. Li, **A. Khojandi**. On the k-Strong Roman Domination Problem. *Discrete Applied Mathematics*, 285: 227-241, 2020.
9. Koszalinski, R.S., **A. Khojandi**, B. Ramshaw. Improving Shared Decision-Making and Treatment Planning Through Predictive Modeling: Clinical Insights on Ventral Hernia Repair. *CIN: Computers, Informatics, Nursing*, 38(5): 227-231, 2020.
10. van Wyk, F.†, **A. Khojandi**, N. Masoud. Optimal Switching Policy Between Driving Entities in Semi-Autonomous Vehicles, *Transportation Research Part C: Emerging Technologies*, 114:517-531, 2020.
11. van Wyk, F.†, Y. Wang, **A. Khojandi**, N. Masoud. Real-Time Sensor Anomaly Detection and Identification in Automated Vehicles. *IEEE Transactions on Intelligent Transportation Systems*, 21(3):1264-1276, 2020.
12. Ramshani, M.‡, X. Li, **A. Khojandi**, O. Omitaomu. An Agent-Based Approach to Study the Diffusion Rate and the Effect of Policies on Joint Placement of Photovoltaic Panels and Green Roof Under Climate Change Uncertainty. *Applied Energy*, 261:114402, 2020.
13. Ramshani, M.‡, **A. Khojandi**, X. Li, O. Omitaomu. Optimal Planning of the Joint Placement of Photovoltaic Panels and Green Roofs Under Climate Change Uncertainty. *Omega: The International Journal of Management Science*, 90:101986, 2020.
14. van Wyk, F.†, **A. Khojandi**, R. Kamaleswaran. Improving Prediction Performance Using Hierarchical Analysis of Real-Time Data: A Sepsis Case Study. *IEEE Journal of Biomedical and Health Informatics*, 23(3):978-986, 2019.

15. van Wyk, F.†, **A. Khojandi**, B. Williams, D. MacMillan, R.L. Davis, D. Jacobson, R. Kamaleswaran. A Cost-Benefit Analysis of Automated Physiological Data Acquisition Systems Using Data-Driven Modeling. *Journal of Healthcare Informatics Research*, 3(2):245-263, 2019.
16. van Wyk, F.†, **A. Khojandi**, A. Mohammad, E. Begoli, R.L. Davis, R. Kamaleswaran. A Minimal Set of Physiomarkers in Continuous High Frequency Data Streams Predict Adult Sepsis Onset Earlier. *International Journal of Medical Informatics*, 122:55-62, 2019.
17. **Khojandi, A.**, O. Shylo, M. Zokaeinikoo†. Automatic EEG Classification: A Path to Smart and Connected Sleep Interventions. *Annals of Operations Research*, 276(1-2):169-190, 2019.
18. Ramdhani, R.A., **A. Khojandi**, O. Shylo, B.H. Kopell. Optimizing Clinical Assessments in Parkinson's Disease Through the Use of Wearable Sensors and Data Driven Modeling. *Frontiers In Computational Neuroscience*, 12:72, 2018.
19. **Khojandi, A.**, V. Tansakul†, X. Li, R.S. Koszalinski, W. Paiva. Prediction of Sepsis and In-Hospital Mortality Using Electronic Health Records. *Methods of Information in Medicine*, 57(04):185-193, 2018.
20. Tirpak, R.A., J.M. Hathaway, J.A. Franklin, **A. Khojandi**. The Health of Trees in Bioretention: A Survey and Analysis of Influential Variables. *Journal of Sustainable Water in the Built Environment*, 4(4):04018011, 2018.
21. Koszalinski, R.S., V. Tansakul†, **A. Khojandi**, X. Li. Missing Data, Data Cleansing and Treatment from a Primary Study: Implications for Predictive Models. *CIN: Computers, Informatics, Nursing*, 36(8):367-371, 2018.
22. **Khojandi, A.**, L.M. Maillart, O.A. Prokopyev, M.S. Roberts, S.F. Saba. Dynamic Abandon/Extract Decisions for Failed Cardiac Leads. *Management Science*, 64(2):633-651, 2018.
23. Capan M., **A. Khojandi**, et al. From Data to Improved Decisions: Operations Research in Healthcare Delivery. *Medical Decision Making*, 37(8):849-859, 2017.
24. **Khojandi, A.**, O. Shylo, L. Mannini, B.H. Kopell, R.A. Ramdhani. Stratifying Parkinson's Patients with STN-DBS into High-Frequency or 60Hz-Frequency Modulation Using a Computational Model. *Neuromodulation: Technology at the Neural Interface*, 20(5):450-5, 2017.
25. **Khojandi, A.**, L.M. Maillart, O.A. Prokopyev, M.S. Roberts, T. Brown, W.W. Barrington. Optimal Implantable Cardioverter Defibrillator (ICD) Generator Replacement. *INFORMS Journal on Computing*, 26(3):599–615, 2014.
26. **Khojandi, A.**, L.M. Maillart, O.A. Prokopyev. Optimal Planning of Life-Depleting Maintenance Activities. *IIE Transactions*, 46(7):636–652, 2014.

REFEREED CONFERENCE PROCEEDINGS AND ABSTRACTS

1. Baucum, M.†, **A. Khojandi**, R. Fernandez. Generating Realistic Patient Trajectories with Transitional Variational Autoencoders. In *Proceedings of the 2020 Society for Medical Decision Making Conference.*
2. Wang, Y., N. Masoud, **A. Khojandi**. Anomaly Detection in Connected and Automated Vehicles using an Augmented State Formulation. In *Proceedings of the 2020 Forum on Integrated and Sustainable Transportation Systems (Forum ISTS 2020).*
3. Scarbrough, K.†, **A. Khojandi**, J. Hathaway. Real-Time Sensor-Based Prediction of Soil Moisture in Green Infrastructure. In *Proceedings of the 2020 Industrial and Systems Engineering Conference.*
4. Watts, J.†, **A. Khojandi**, O. Shylo, R. Ramdhani. Sensor-Based Gait Measurements Predict Subthalamic Deep Brain Stimulation Frequency in Parkinson's Disease Patients – A Proof of Concept Study. *Movement Disorders,* 35 (suppl 1), 2020.
5. Watts, J.†, **A. Khojandi**, R.K. Vasudevan, R. Ramdhani. Optimizing Individualized Treatment Planning for Parkinson's Disease Using Deep Reinforcement Learning. In *2020 42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society,* 2020, pp. 5406-5409. IEEE.

6. Blanchette, R.†, **A. Khojandi**, D. Cox, M. Oliver, R. Fernandez. Predicting Alzheimer's Disease Using Driving Simulator Data. In *2020 42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society,* 2020, pp. 5432-5435. IEEE.
7. van Wyk, F.†, **A. Khojandi**, N. Masoud. A Path Towards Understanding Factors Affecting Crash Severity in Autonomous Vehicles Using Current Naturalistic Driving Data. In: Bi Y., Bhatia R., Kapoor S. (eds) *Intelligent Systems and Applications. IntelliSys 2019. Advances in Intelligent Systems and Computing,* vol 1038. Springer, Cham, 2020.
8. Liu, Z.†, X. Li, **A. Khojandi**, S. Lazarova-Molnar. On the Extension of Schelling's Segregation Model. In *2019 Winter Simulation Conference (WSC)*, National Harbor, MD, 2019, pp. 285-296. IEEE.
9. Ramshani, M.‡, X. Li, **A. Khojandi**, L. Treffert†. An Optimization Via Agent-based Simulation Framework To Integrate Stochastic Programming With Human Introduced Uncertainty. In *2019 Winter Simulation Conference (WSC)*, National Harbor, MD, 2019, pp. 809-818. IEEE.
10. Kurt, M., **A. Khojandi**, M. Barah†, B. Tanriover. How Early is Too Early for a Preemptive Kidney Transplant? A Markov Decision Process-Based Retrospective Analysis. In *American Journal of Transplantation*, 17 (suppl 3), 2017.
11. Barah, M.†, M. Kurt, **A. Khojandi**, B. Tanriover. Living-Donor Preemptive Kidney Transplant Timing Calculator: An Online Decision Support Tool. In *American Journal of Transplantation*, 17 (suppl 3), 2017.
12. van Wyk, F.†, **A. Khojandi**, R. Kamaleswaran, O. Akbilgic, S. Nemati, R.L. Davis. How Much Data Should We Collect? A Case Study in Sepsis Detection Using Deep Learning. In *Healthcare Innovations and Point of Care Technologies (HI-POCT)*, 2017, 109-112. IEEE.
13. Tansakul, V.†, **A. Khojandi**, X. Li, R.S. Koszalinski. Predicting Sepsis and In-Hospital Mortality for Pneumonia Patients Using Electronic Health Record Data. In *Proceedings of the 2017 Society for Medical Decision Making Conference.*
14. Li, X., M. Ramshani‡, **A. Khojandi**, O. Omitaomu, and J.M. Hathaway. An Agent Based Model for Joint Placement of PV Panels and Green Roofs. In *2017 Winter Simulation Conference (WSC)*, Las Vegas, NV, 2017, pp. 1133-1144. IEEE.
15. Dorris, D.†, **A. Khojandi**, B. Ramshaw. Predicting Patients' Outcomes in Abdominal Wall Reconstruction Procedure. In *Proceedings of the 2017 Industrial and Systems Engineering Conference.*
16. **Khojandi, A.**, O. Shylo, B.H. Kopell, R.A. Ramdhani. Predicting the Optimal Stimulation Frequency for Deep Brain Stimulation Patients. *Annals of Neurology*, 80(s20):S68-S69, 2016.
17. van Wyk, F.†, P.J. Vlok, M. Jin, **A. Khojandi**, N. Brunkea. Incorporating Business Risks in Physical Asset Replacement: A Case in the Mining Industry. In *Proceedings of the 2016 Industrial and Systems Engineering Research Conference.*
18. **Khojandi, A.**, L.M. Maillart, O.A. Prokopyev, M.S. Roberts. Medical Decision Making Problems with Large Policy Spaces: Why Markov Decision Processes Trump Simulation. In *Proceedings of the 2014 Society for Medical Decision Making Conference.*
19. **Khojandi, A.**, L.M. Maillart, O.A. Prokopyev, M.S. Roberts, S. Saba. Dynamic Abandon/Extract Decisions for Failed Cardiac leads. In *Proceedings of the 2013 Society for Medical Decision Making Conference.*

PAPERS UNDER REVIEW OR REVISION

1. Watts, J.†, F. van Wyk†, S. Rezaei†, Y. Wang, N. Masoud, **A. Khojandi**. A Dynamic Deep Reinforcement Learning-Bayesian Framework for Anomaly Detection (under third review).
2. Liu, Z.†, **A. Khojandi**, X. Li, R.L. Davis, R. Kamaleswaran. A Machine Learning-Enabled Partially Observable Markov Decision Process Framework for Early Sepsis Prediction (under revision).
3. Madadi, M., **A. Khojandi**. Dynamic Joint Sensor Selection and Maintenance Planning in Partially Observable Deteriorating Systems (under revision).

4. Rezaei, S.†, **A. Khojandi**, A. Haque, C. Brakewood, M. Jin, C. Cherry. Performance Evaluation of Mode Choice Models Under Balanced and Imbalanced Data Assumptions (under revision).
5. Titu, N.A.†, M. Baucum†, T. No, M. Trotsky, J. Karandikar, T.L. Schmitz, **A. Khojandi**. Estimating Johnson-Cook Material Parameters using Neural Networks (under revision).
6. Haque, A., C. Brakewood, S. Rezaei†, **A. Khojandi**. A Literature Review on Park-and-Rides (under revision).
7. Watts, J.†, **A. Khojandi**, R.K. Vasudevan, F. Nahab, R. Ramdhani. Predicting Parkinson's Disease Medication Regimen Using Sensor Technology (under review).

ARTICLES IN PRESS

1. Johnson, M., **A. Khojandi**. Diversity and OR/MS/Analytics. *OR/MS Today*, 46(3):16-18, 2019.

INVITED PRESENTATIONS AT PEER INSTITUTIONS

Dynamic Real-Time Learning and Decision Making to Improve Sepsis Prediction at the Bedside, Department of Industrial and Systems Engineering, University at Buffalo, The State University of New York, University, Oct. 2020

Dynamic Real-Time Learning and Decision Making with High-Frequency Health Data, Department of Industrial and Systems Engineering, Texas A&M University, Nov. 2019

Real-Time Sensor Anomaly Detection and Identification in Automated Vehicles, Department of Civil and Environmental Engineering, University of Tennessee, Nov. 2018

Prediction of Sepsis: EHR vs. Automated Physiological Data Acquisition Systems, The Bredesen Center, University of Tennessee, Nov. 2017

Dynamic Abandon/Extract Decisions for Failed Cardiac Leads
- Christiana Care Health System, Oct. 2016
- University of Tennessee Medical Center, Mar. 2016

Optimizing Implanted Cardiac Device Follow-Up Care
- Mount Sinai Hospital, Robert and John M. Bendheim Parkinson and Movement Disorders Center, Feb. 2014
- The University of Sydney, Business School, Sydney, Australia, June 2015

CONFERENCE PRESENTATIONS PERSONALLY DELIVERED

Forecasting of Disease Progression: Hidden Markov Models vs. Recurrent Neural Networks, 41st International Engineering in Medicine and Biology Conference (EMBC), Berlin, Germany, 2019

Real-Time Sensor Anomaly Detection and Identification in Automated Vehicles, 2019 INFORMS International Conference, Cancun, Mexico, 2019

Data Analytics for Healthcare Overview - Using Predictive Analytics to Identify Patient Sub-populations, 4th International Conference for Systems and Complexity Sciences for Health, Knoxville, TN, 2019

Optimizing Green Infrastructure Placement Under Precipitation Uncertainty, Asia-Pacific Conference on Engineering and Applied Sciences (APCEAS), 2018

Real-Time Prediction of Sepsis in Hospitalized Adults Using Continuous Bedside Physiological Data Streams, 2018 INFORMS International Conference, Taipei, Taiwan, 2018

Optimizing Condition Based Maintenance for Systems with Degrading Sensors, INFORMS Annual Meeting, Houston, TX, 2017

Optimizing Green Roof Integrated Photovoltaics Placement Under Climate Change Uncertainty, REMOO International Energy Conference & Workshop, Venice, Italy, 2017

Joint Optimization of Replacement and Inspection Decisions for Two-unit Standby Redundant Systems with Non-Silent System Failures. INFORMS Annual Meeting, Nashville, TN, 2016

Eliciting Patients' Risk Perceptions in Preemptive Living-Donor Kidney Transplantation, ISERC, Anaheim, CA, 2016

Medical Decision Making Problems with Large Policy Spaces: Why Markov Decision Processes Trump Simulation. Annual Meeting of SMDM, poster session, Miami, FL, 2014

Optimizing Implanted Cardiac Device Follow-Up Care. INFORMS Annual Meeting, San Francisco, CA, 2014

Dynamic Abandon/Extract Decisions for Failed Cardiac Leads
- INFORMS Annual Meeting, San Francisco, CA, 2014
- INFORMS Annual Meeting, Minneapolis, MN, 2013
- Annual Meeting of SMDM, Baltimore, MD, 2013

Optimal Implantable Cardioverter Defibrillator Generator Replacement
- INFORMS Healthcare, Chicago, IL, 2013
- INFORMS Annual Meeting, Phoenix, AZ, 2012
- ISERC, Orlando, FL, 2012

Optimal Planning of Life-Depleting Maintenance Activities
- ISERC, Reno, NV, 2011
- INFORMS Annual Meeting, Austin, TX, 2010

Optimal Policies for Life-Depleting Maintenance Activities over a Finite Planning Horizon. INFORMS Annual Meeting, Charlotte, NC, 2011

Optimal Control of an Unreliable Multiserver Retrial Queue. INFORMS Annual Meeting, San Diego, CA, 2009

Control of a Retrial Queueing System with Unreliable, Heterogeneous Servers. ISERC, Miami, FL, 2009

STUDENT RESEARCH ADVISING AND COMMITTEE MEMBERSHIP

University of Tennessee, Bredesen Center for Interdisciplinary Research and Graduate Education, Doctoral Committee Membership
- Benjamin Rives Smith (co-chair), expected Summer 2024
- Sujana Chandrasekar, expected Summer 2020

University of Tennessee, Department of Industrial and Systems Engineering
- Doctoral Committee Membership
  - Sam St John (chair), expected Summer 2026
  - Nesar Ahmed Titu (chair), expected Summer 2024
  - Ryan Blanchette (chair), expected Summer 2024
  - Victoria Platt (chair), expected Summer 2024
  - Shahrbanoo Rezaei (chair), expected Summer 2023
  - Jeremy Watts (chair), expected Summer 2022

  - Zeyu Liu (co-chair), expected Summer 2022
  - Matthew Baucum (chair), expected Spring 2021, "Improving Bayesian and Variational Inference for Medical Decision-Making"
  - Franco van Wyk (chair), Summer 2019, "Real-Time Prediction and Decision Making in Connected and Automated Vehicles Under Cyber-Security and Safety Uncertainties"
  - Alexandr Mikhail Sokolov (co-chair), Spring 2019, "Numerical Evaluation of Research Project Performance"
  - Masoud Barah (chair), Fall 2018, "Optimizing Green Infrastructure Resilience Under Precipitation and Population Growth Uncertainties"
  - Jeremy Hale, expected Summer 2021
  - Suresh Rangan, expected Fall 2020
  - Andrii Berdnikov, expected Fall 2020
  - Nooshin Hamidian, Fall 2019
  - Amelia Mcilvenna, Fall 2019
  - Mohammad Ramshani, Summer 2019
  - Tony Rodriguez, Spring 2019
  - Lynn Reed, Spring 2019
  - Hesam Shams, Summer 2018
  - Saurav Kumar Dubey, Summer 2017
- Master's Committee Membership
  - Sarah M. Biver (chair), expected Summer 2022
  - Kayleigh A. Jowers (chair), expected Summer 2022
  - Taylor A. Krakuszeski (chair), expected Summer 2022
  - Haley W. Penney (chair), expected Summer 2022
  - Jeremy Ricks (chair), expected Spring 2022
  - Neha Petal (chair), expected Spring 2022
  - Benjamin J. Schroeder (chair), expected Spring 2022
  - Ashley M. Williams (chair), expected Spring 2022
  - Varisara Tansakul (co-chair), Fall 2017, "The Use of EHR Data in Early Detection Systems: A Case in Sepsis and In-Hospital Mortality Prediction"
  - Maryam Zokaeinikoo (co-chair), Spring 2016, "Automatic Sleep Stages Classification"
  - Sinan Meric, expected Fall 2020
  - Rejith Chacko, expected Fall 2020
  - Avinash Ayyalasomayajula, Spring 2020
  - Aju Joseph, Spring 2020
  - Fabio Abreu, Spring 2020
  - Lixia He Lambert, Summer 2018
  - Bernard Albe Knueven, Fall 2017
  - Lavanya Marella, Fall 2015
- Undergraduate Research Advising
  - Julia Boylan, Fall 2020–present
  - Paulina Urbanowicz, Fall 2020–present
  - Elexis Allen, Summer 2020–present
  - Mollie Turner, Fall 2019–present
  - Teesha Brown, Fall 2019–present
  - Jordan Huff, Fall 2019–present
  - Kalina Scarbrough, Summer 2019–present
  - Mya Pinson, Summer 2020–Fall 2020
  - Jason Pan, Summer 2019–Summer 2020
  - Lorna M Treffert, Fall 2018–Spring 2019
  - Danika Dorris, Summer 2016–Summer 2018
  - Wesley Smith, Fall 2017
  - Grant Powell, Spring 2017
  - Skyler Devine, Spring 2016

University of Tennessee, Department of Mechanical, Aerospace, and Biomedical Engineering
- Reza Yazdanpanah Abdolmalaki (PhD), Fall 2018
- Reza Abiri (PhD), Fall 2017

University of Tennessee, Department of Electrical Engineering & Computer Science
- Chad Effler (PhD), Summer 2020
- Sudarshan Srinivasan (PhD), Fall 2019

University of Tennessee, Department of Civil and Environmental Engineering
- Matthew Weathers (MS), expected Spring 2021
- Nima Hoseinzadeh (PhD), Fall 2020

FUNDED RESEARCH

Anahita Khojandi (PI) $124,837 out of $124,837
Co-PIs: -
Science Alliance, University of Tennessee
Continued funding for "Dynamic Deep Reinforcement Learning-Bayesian Framework"
Jan. 2021–Dec. 2021

Tony Schmitz & Nick Horvath (PI) $70,000 out of $350,000
Co-PIs: **Anahita Khojandi**, Jamie Coble, Bradley Jared, Ryan Dehoff, Jaydeep Karandikar, Andrzej Nycz, Scott Smith
Oak Ridge Institute, University of Tennessee (ORI@UT)
"AI-Informed Metrology for Digital Manufacturing"
Jan. 2021–Dec. 2021

Jon Hathaway (PI) $9,720 out of $50,000
Co-PIs: **Anahita Khojandi**, Michael Blum
Office of Research & Engagement, University of Tennessee
"Expanding Horizons: Convergent Research to Transform Urban Watershed Management"
Nov. 2020–Oct. 2022

Anahita Khojandi (PI) $201,000 out of $800,000
Co-PIs: Jamie Coble, Klaus Blache, Mahboubeh Madadi, Vivek Agarwal, Vaibhav Yadav, Ronald Boring, Stephen Farlett, Erica Swift
Department of Energy (DOE)
"A Holistic Artificial Intelligence Tool to Mitigate Human Factor Uncertainty in Operation and Maintenance"
Oct. 2020–Sept. 2023

Jon Hathaway (PI) $34,951 out of $69,903
Co-PIs: **Anahita Khojandi**, Xueping Li, Olufemi Omitaomu
National Science Foundation (NSF) Grant CMMI-1634975
Supplemental Support to "Optimizing Green Infrastructure Investment to Improve Urban Storm Water System Resilience under Environmental Uncertainty" for "Data Science Activities for the Civil, Mechanical and Manufacturing Innovation Communities"
July 2020–July 2022

Anahita Khojandi (PI) $11,520 out of $11,520
Co-PIs: -
Science Alliance, University of Tennessee
College of Engineering Undergraduate Research
May 2020–Aug. 2020

James Ostrowski (PI) $211,200 out of $800,000
Co-PIs: **Anahita Khojandi**, Jamie Coble, Diego Mandelli, Gerry Kindred, Damian Fantroy
Department of Energy (DOE)
"Economic Risk-Informed Maintenance Planning and Asset Management"
Oct. 2019–Sept. 2022

Ritesh Ramdhani (PI) $60,003 out of $451,709
Co-PIs: **Anahita Khojandi**, Oleg Shylo
National Institutes of Health (NIH)
"Computational Modeling of 60Hz STN DBS for Gait Disorder in Parkinson's Disease"
Sept. 2019–Aug. 2021

Anahita Khojandi (PI) $125,000 out of $125,000
Co-PIs: -
Science Alliance, University of Tennessee
"Dynamic Deep Reinforcement Learning-Bayesian Framework"
Aug. 2019–Dec. 2020

Anahita Khojandi (PI) $67,500 out of $150,000
Co-PIs: Candace Brakewood, Christopher Cherry, Mingzhou Jin
Tennessee Department of Transportation (TDOT)
"Improvement of Park-And-Ride Facilities and Services in Metropolitan Areas of Tennessee"
Aug. 2019–Feb. 2021

Anahita Khojandi (PI) $19,905 out of $39,810
Co-PIs: Jon Hathaway
Institute for a Secure & Sustainable Environment (ISSE), University of Tennessee
"Multi-Sensor Data-Driven Inspection/Maintenance of Green Infrastructure"
July 2019–June 2021

Xi, Zhimin (PI) $50,832 out of $451,155
co-PI: **Anahita Khojandi**
Defense Advanced Research Project Agency (DARPA) D17AP00007
"New Theory in Model-Based Design: A Design Foundation Driven by Probability of Design Errors"
Dec. 2016–Dec. 2019

Jon Hathaway (PI) $109,655.4 out of $365,518
Co-PIs: **Anahita Khojandi**, Xueping Li, Olufemi Omitaomu
National Science Foundation (NSF) Grant CMMI-1634975
"Optimizing Green Infrastructure Investment to Improve Urban Storm Water System Resilience under Environmental Uncertainty"
Aug. 2016–July 2022

Anahita Khojandi (PI) $10,818 out of $50,000
Co-PIs: Kelsey Ellis, Jon Hathaway, Xueping Li, Lisa R. Mason
Institute for a Secure & Sustainable Environment (ISSE), University of Tennessee
"Socially Responsible Storm Water Management in the Face of Climate Change Uncertainty"
Aug. 2016–Dec. 2017

Anahita Khojandi (PI) $3,300 out of $10,000
Co-PIs: Oleg Shylo, Nicole McFarlane, Georgia Tourassi
Neuroscience Network of East Tennessee (NeuroNet), University of Tennessee
"A Path to Large-Scale, Non-Intrusive, Objective Sleep Evaluation: A Wearable Device"
Aug. 2016–May 2017

Anahita Khojandi (PI) $5,000 out of $10,000
Co-PIs: Rebecca S. Koszalinski, Xueping Li
College of Nursing, University of Tennessee
"Evidence-based, Data-driven Predictive Models for Early Detection of Sepsis: A Pilot Study"
Apr. 2016–June 2016

Anahita Khojandi (PI) $25,000 out of $50,000
Co-PI: Xueping Li
Science Alliance, University of Tennessee
"Multi-Method Cognitive Simulators for Urban Dynamics"
Jan. 2016–Dec. 2016

Anahita Khojandi (PI) $500
Tennessee Teaching and Learning Center, University of Tennessee
Teaching for Innovation Grant
Academic Year 2016–2017

TEACHING

Department of Industrial and Systems Engineering, University of Tennessee

- IE200: Engineering Statistics – Undergraduate level
  Spring 2016 (28 students – 2.8/5), Spring 2017 (39 students – 3.5/5), Spring 2018 (36 students – 4.5/5), Spring 2019 (35 students – 4.6/5), Spring 2020 (33 students – 4.3/5)
- IE483: Introduction to Reliability Engineering – Undergraduate/graduate level
  Fall 2015 (132 students – 2.7/5), Fall 2016 (104 students – 4.3/5), Fall 2017 (151 students – 4.1/5), Fall 2018 (134 students – 4.3/5), Fall 2019 (108 students – 3.9/5), Fall 2020 (78 student – 3.8/5)
- IE465/565: Applied Data Science – Undergraduate/graduate level
  Spring 2021 (28 students)
- IE607: Stochastic Processes – PhD level
  Spring 2015 (13 students – 4.5/5), Spring 2017 (11 students – 4.7/5), Spring 2019 (16 students – 4.8/5)
- IE691: Advanced Topics: Decision Making – PhD level
  Spring 2020 (5 students – 4.9/5),
- Bootcamp: Artificial Intelligence in Healthcare
  April 2019
- Workshop: Introduction to Deep Learning
  May 2016

Department of Industrial Engineering, University of Pittsburgh
ENGR-0020: Probability and Statistics for Engineers-I – Undergraduate level
Summer 2011 (40 students – 4.1/5)

Society for Medical Decision Making (SMDM), 40th Annual North American Meeting, Montreal, Canada
Shortcourse: Using Machine Learning to Predict At-Risk Patients
Oct. 2018

Second School of Advanced Studies in Health Technology Assessment, sponsored by Brazilian Ministry of Health, São Paulo, Brazil
Workshop: Using Machine Learning with Real World Data
Jan. 29–31, 2020

PROFESSIONAL SOCIETY MEMBERSHIPS

Institute for Operations Research and the Management Sciences (INFORMS) – INFORMS Health Applications Society (HAS), INFORMS Women in OR/MS Forum (WORMS), IEEE – IEEE Engineering in Medicine and Biology Society (EMBS), Society for Medical Decision Making (SMDM), Institute of Industrial and Systems Engineers (IISE), International Society of Engineering Asset Management (ISEAM)

SERVICE TO THE PROFESSION

INFORMS Leadership

- *Sponsored Sessions Chair*, INFORMS Annual Meeting, 2021
- *Cluster Co-Chair*, HAS Track, INFORMS Healthcare Conference, 2021
- *Member*, Nominating Committee, INFORMS, 2021
- *Cluster Co-Chair*, HAS Track, INFORMS Annual Meeting, 2020
- *Sub-Committee Chair*, Ambassador Program, Diversity, Equity and Inclusion (DEI) Committee, INFORMS, 2020, 2021
- *Vice Chair*, Diversity, Equity and Inclusion (DEI) Committee, INFORMS, 2020, 2021
- *Panelist*, Joint Panel MIF/DEI: Diversity Statements and Beyond, INFORMS Annual Meeting, Seattle, WA, 2019
- *Volume Co-editor*, Editor's Cut, Diversity & Inclusion: Analytics for Social Impact, INFORMS, 2019
- *Celebrity Judge*, INFORMS MIF Annual Student Poster Competition, INFORMS Annual Meeting, 2018, 2019
- *Council Member*, Health Applications Society (HAS), INFORMS, 2019, 2020
- *Co-Chair*, Job Market Session, HAS, 2019, 2020
- *Cluster Chair*, Health Analytics, INFORMS Computing Society (ICS) Conference, 2019
- *President*, JFIG, INFORMS, 2018–2019
- *Cluster Chair*, JFIG, INFORMS Annual Meeting, 2018
- *Vice President/President-Elect*, JFIG, INFORMS, 2017–2018
- *Member*, Committee on Diversity, Equity and Inclusion (DEI), INFORMS, 2017–2019
- *Judge*, INFORMS Interactive Session Competition, INFORMS Annual Meeting, 2014, 2017
- *Panelist*, WORMS Panel: Female Professional Development, INFORMS Annual Meeting, 2017
- *Co-Chair of Arrangements*, Organizing Committee, INFORMS Annual Meeting, 2016
- *Media Coordinator*, JFIG, INFORMS, 2015–2017
- *Session Chair*, INFORMS Annual Meeting, 2011–2020
- *Session Chair*, INFORMS Healthcare, 2013, 2015

Other Leadership

- *Member*, Awards Committee, SMDM, 2021
- *Mentor*, Google Summer of Code, "Deep Learning Model for Sepsis Prediction Using High-Frequency Data," 2019
- *Session Chair*, IISE Annual Conference & Expo, 2019

Editorial Appointments

- Associate Editor, Health Care Department, IISE Transactions, Focused Issue on Operations Engineering and Analytics, 2020-present

Ad hoc Referee for Ambient Intelligence and Humanized Computing; Applied Clinical Informatics; Applied Sciences; Breast Cancer Research; Engineering Economist; European Journal of Operational Research; Health Systems; IEEE Transactions on Intelligent Transportation Systems; IEEE Transactions on Reliability; IIE Transactions; IIE Transactions on Healthcare Systems Engineering; JAMA Network Open; Journal of Global Optimization; Management Science; Omega, The International Journal of Management Science; Operations Research; Optimization Letters; Proceedings of the ISERC; Production and Operations Management; Wiley

Invited Proposal Reviewer for National Science Foundation (NSF): Operations Engineering (OE) program, Cyber-Physical Systems (CPS) program

SERVICE TO THE UNIVERSITY OF TENNESSEE

Director, Reliability and Maintainability Engineering Program, Tickle College of Engineering, Jan. 2021-present

Member, Tickle College of Engineering Academic and Student Affairs Advisory Board for Women in Engineering, Spring 2021

Coordinator, Women Faculty Group, Tickle College of Engineering, 2020–2021

Member, Faculty Affairs Advisory Committee, Tickle College of Engineering, 2020–2021

ISE Department Review Representative, Institutional Review Board (IRB), Fall 2020–present

Attendee, WomEngineers Virtual Welcome Event, Tickle College of Engineering, Fall 2020

Member, Peer-Teaching Evaluation Committee, Department of Industrial and Systems Engineering (ISE), 2019

Review Committee Member, Blavatnik National Awards, Fall 2018

Judge, Exhibition of Undergraduate Research and Creative Achievement (EUReCA), 2017–2020

WomEngineer's Leadership Council Member, Tickle College of Engineering, June 2016–Dec. 2020

Search Committee Member, ISE, 2015, 2017

Undergraduate Scholarship Committee Member, ISE, 2017, 2018, 2020

Sophomore Gateway Committee Member, ISE, 2016–2017

Panelist, Women in STEAM Panel, McClung Museum, Oct. 2017

Seminar Committee Member, NeuroNET, 2015–2016

Faculty advisor to

- Women in Industrial and Systems Engineering (WISE), Aug. 2014–present
- Iranian Student Association of UTK, Oct. 2014–2017, July 2019–present