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

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

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

HONORS AND AWARDS

Dr. Kenneth E. Kirby Endowed Faculty Award, Department of Industrial and Systems Engineering, UTK, 2021

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

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

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

Fellow, Center for Transportation Research, UTK, 2016

Best Track Paper, Engineering Economic Analysis, ISERC, 2016

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

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

REFEREED PAPERS

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

1. Rezaei, S.†, **A. Khojandi**, A. Haque, C. Brakewood, M. Jin, C. Cherry. Performance Evaluation of Mode Choice Models Under Balanced and Imbalanced Data Assumptions, *Transportation Letters: The International Journal of Transportation Research* (forthcoming).

2. Haque, A., C. Brakewood, S. Rezaei[†], **A. Khojandi**. A Literature Review on Park-and-Rides, *Journal of Transport and Land Use* (forthcoming).
3. 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* (forthcoming).
4. 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*, 25(6): 2273-2280, 2021.
5. 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*, 287: 112300, 2021.
6. Watts, J.[†], **A. Khojandi**, R.K. Vasudevan, F. Nahab, R. Ramdhani. Improving Medication Regimen Recommendation for Parkinson's Disease Using Sensor Technology, *Sensors*, 21(10):3553, 2021.
7. 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*, 131: 104255, 2021.
8. Wang, Y., N. Masoud, **A. Khojandi**. Real-Time Sensor Anomaly Detection and Recovery in Connected Automated Vehicle Sensors, *IEEE Transactions on Intelligent Transportation Systems*, 22(3): 1411-1421, 2021.
9. Barah, M.[†], **A. Khojandi**, X. Li, J. Hathaway, O. Omitaomu. Optimizing Green Infrastructure Placement Under Precipitation Uncertainty. *Omega: The International Journal of Management Science*, 100:102196, 2021.
10. 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.
11. Liu, Z.[†], X. Li, **A. Khojandi**. On the k-Strong Roman Domination Problem. *Discrete Applied Mathematics*, 285: 227-241, 2020.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.

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

17. 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.
18. 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.

19. 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.
20. **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.
21. 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.
22. **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.
23. 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.
24. 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.
25. **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.
26. Capan M., **A. Khojandi**, et al. From Data to Improved Decisions: Operations Research in Healthcare Delivery. *Medical Decision Making*, 37(8):849-859, 2017.
27. **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.
28. **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.
29. **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. Mitoubsi, A.†, Z. Liu†, D. Banks, **A. Khojandi**, M. Oliver, D. Cox, R. Fernandez. Evaluating the Fitness-to-Drive Using Evoked Visual Responses in Alzheimer's Disease. In *2021 43rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society* (forthcoming).
2. Day, M., R. Dey, M. Baucum†, E. Paek, P. Hyejin, **A. Khojandi**. Predicting Severity in People with Aphasia: A Natural Language Processing and Machine Learning Approach. In *2021 43rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society* (forthcoming).
3. Soni, A., B. Amrhein, M. Baucum†, E. Paek, **A. Khojandi**. Using Verb Fluency, Natural Language Processing, and Machine Learning to Detect Alzheimer's Disease. In *2021 43rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society* (forthcoming).
4. Watts, J.†, **A. Khojandi**, M. Niethammer, R. Ramdhani. Predicting MDS-UPDRS Ratings for Deep Brain Stimulation Patients Using Wearable Sensor Data. *Movement Disorders,* Online Supplement (forthcoming).
5. Skutnik, A., J.N. Thompson, A. Palomino, J. Coble, **A. Khojandi**, V. Keppens, O. Kilic. Creating Pathways for Success and Engagement for Women in Engineering. In *2022 Collaborative Network for Engineering & Computing Diversity (CoNECD)* (forthcoming).
6. Coble, J., E. Deakins, T. Gallacher, **A. Khojandi**, J. Ostrowski, D. Mandell. An Exact Method for Maintenance Schedule Optimization in Nuclear Power Plants. In *12th Nuclear Plant Instrumentation, Control and Human-Machine Interface Technologies (NPIC&HMIT 2021)* (forthcoming).

7. Sethu, M., N.A. Titu†, D. Hu, M. Madadi, J.B. Coble, R.L. Boring, K. Blache, V. Agarwal, V. Yadav, **A. Khojandi**. Using Artificial Intelligence to Reduce and Mitigate Human Factor Errors: A Review. In *12th Nuclear Plant Instrumentation, Control and Human-Machine Interface Technologies (NPIC&HMIT 2021)* (forthcoming).
8. Titu, N.A.†, M. Baucum†, T. No, M. Trotsky, J. Karandikar, T.L. Schmitz, **A. Khojandi**. Estimating Johnson-Cook Material Parameters using Neural Networks. *Procedia Manufacturing* (forthcoming).
9. 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.*
10. 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).*
11. 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.*
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.
21. 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.*
22. 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.

23. Dorris, D.†, **A. Khojandi**, B. Ramshaw. Predicting Patients' Outcomes in Abdominal Wall Reconstruction Procedure. In *Proceedings of the 2017 Industrial and Systems Engineering Conference*.
24. **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.
25. 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*.

    *Best Track Paper, Engineering Economic Analysis, ISERC, 2016

26. **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*.
27. **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 fourth review).
2. Liu, Z.†, **A. Khojandi**, X. Li, A. Mohammed, R.L. Davis, R. Kamaleswaran. A Machine Learning-Enabled Partially Observable Markov Decision Process Framework for Early Sepsis Prediction (under second review).
3. Madadi, M., **A. Khojandi**. Dynamic Joint Sensor Selection and Maintenance Optimization in Partially Observable Deteriorating Systems (under second review).
4. Baucum, M.†, **A. Khojandi**, R.K. Vasudevan, R.L. Davis. Adapting Reinforcement Learning Treatment Policies Using Limited Data to Personalize Critical Care (under revision).
5. Baucum, M.†, **A. Khojandi**, R.K. Vasudevan, R. Ramdhani. Optimizing Patient-Specific Medication Regimen Policies Using Wearable Sensors in Parkinson's Disease (under revision).
6. Liu, Z.†, X. Li, **A. Khojandi**. The Flying Sidekick Traveling Salesman Problem with Stochastic Travel Time: A Reinforcement Learning Approach (under revision).
7. Liu, X., N. Masoud, Q. Zhu, **A. Khojandi**. A Markov Decision Process Framework to Incorporate Network-Level Data in Motion Planning for Connected and Automated Vehicles (under review).
8. Rezaei, S.†, **A. Khojandi**, A. Haque, C. Brakewood, M. Jin, C. Cherry. Park-and-Ride Facility Location Optimization: A Case Study for Nashville, Tennessee (under review).

ARTICLES IN PRESS

1. Johnson, M., **A. Khojandi**. Diversity and OR/MS/Analytics. *OR/MS Today*, 2019, `https://doi.org/10.1287/orms.2019.03.06`.
2. Ivy, J., P. Keskinocak, **A. Khojandi**, R. Kulkarni, A. Weintraub, P. Wu-Smith. Transparency, Diversity and Open Opportunity – Lessons Learned from the 2021 INFORMS Board of Directors Nominating Committee. *OR/MS Today*, 2021, `https://doi.org/10.1287/orms.2021.03.02`.

STUDENT RESEARCH ADVISING AND COMMITTEE MEMBERSHIP

Bredesen Center for Interdisciplinary Research and Graduate Education

- Doctoral Committee Chairship
    1. Benjamin Rives Smith (co-chair), expected Summer 2024
- Doctoral Committee Membership
    - Sujana Chandrasekar, Spring 2021

Department of Industrial and Systems Engineering

- Doctoral Committee Chairship
  1. Rachel Wood, expected Summer 2026
  2. Ahmad Mitoubsi, expected Summer 2026
  3. Sam St John, expected Summer 2025
  4. Nesar Ahmed Titu, expected Summer 2024
  5. Victoria Platt, expected Summer 2024
  6. Shahrbanoo Rezaei, expected Summer 2023
  7. Jeremy Watts, expected Summer 2023
  8. Zeyu Liu (co-chair), expected Summer 2022

  9. Matthew Baucum, Summer 2021, "Improving Reinforcement Learning Techniques for Medical Decision Making."
     Position: Visiting professor in the Department of Decision Sciences and Management, College of Business, Tennessee Tech University and Adjunct Professor, Haslam College of Business, University of Tennessee-Knoxville
  10. Franco van Wyk, Summer 2019, "Real-Time Prediction and Decision Making in Connected and Automated Vehicles Under Cyber-Security and Safety Uncertainties"
      Position: Senior Developer, CompariSure, and in affiliation with Stellenbosch University, South Africa
  11. Alexandr Mikhail Sokolov (co-chair), Spring 2019, "Numerical Evaluation of Research Project Performance"
      Position: Assistant Professor of Engineering Management, College of Engineering and Computer Science, Arkansas State University
  12. Masoud Barah, Fall 2018, "Optimizing Green Infrastructure Resilience Under Precipitation and Population Growth Uncertainties"
      Position: Postdoctoral Research Fellow, Department of Industrial Engineering and Management Sciences, Northwestern University

- Doctoral Committee Membership
  - Rui Li, expected Fall 2021; Jeremy Hale, expected Summer 2021; Suresh Rangan, Fall 2020; Andrii Berdnikov, 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 (Thesis-Based) Committee Chairship
  1. Varisara Tansakul (co-chair), Fall 2017, "The Use of EHR Data in Early Detection Systems: A Case in Sepsis and In-Hospital Mortality Prediction"
  2. Maryam Zokaeinikoo (co-chair), Spring 2016, "Automatic Sleep Stages Classification"

- Master's (Project/Course-Based) Committee Chairship
  1. Jeffrey Harvey, expected Fall 2023
  2. Jason Phillips, expected Summer 2023
  3. Benjamin G. Lee, expected Summer 2023
  4. Garett J. Robichaux, expected Summer 2023
  5. Sarah M. Biver, expected Summer 2022
  6. Lloyd D. Lee, expected Summer 2022
  7. Kayleigh A. Jowers, expected Summer 2022
  8. Taylor A. Krakuszeski, expected Summer 2022
  9. Jeremy Ricks, expected Spring 2022
  10. Benjamin J. Schroeder, expected Spring 2022
  11. Alex Hines (co-chair), expected Spring 2022
  12. Ashley M. Williams, expected Spring 2022

  13. Haley W. Penney, Summer 2021, "The Impact of Electrical Failures on A Production Line"

- Master's Committee Membership
  - Sinan Meric, Spring 2020; Rejith Chacko, 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
  - 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; Julia Boylan, Fall 2020–Spring 2021; Paulina Urbanowicz, Fall 2020; 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

Department of Civil and Environmental Engineering
- Doctoral Committee Membership
  - Iman Mahdi Nia, expected Fall 2021; Amin Mohammadnazar, expected Fall 2021; Aaron Alexander Akin, expected Summer 2021; Nima Hoseinzadeh, Fall 2020
- Master's Committee Membership
  - Matthew Weathers (MS), Spring 2021

Department of Electrical Engineering & Computer Science, Doctoral Committee Membership
- Chad Effler, Summer 2020; Sudarshan Srinivasan, Fall 2019

Department of Mechanical, Aerospace, and Biomedical Engineering, Doctoral Committee Membership
- Reza Yazdanpanah Abdolmalaki, Fall 2018; Reza Abiri, Fall 2017

AWARDS GIVEN TO MENTORED STUDENTS

Third place, Global Undergraduate Student Technical Paper Competition, IISE, 2021 (awarded to mentored student Kalina Scarbrough)

First place, Mid-Atlantic Region, Regional Undergraduate Student Technical Paper Competition, IISE, 2021 (awarded to mentored student Kalina Scarbrough)

Second place, Undergraduate Research Poster Competition – Engineering category, Annual Virtual Tennessee Louis Stokes Alliance for Minority Participation (TLSAMP) Research Conference, 2021 (awarded to mentored student Elexis Allen)

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

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

FUNDED RESEARCH: EXTERNAL

Tony Schmitz (PI) $260,239 out of $1,301,195
Co-PIs: **Anahita Khojandi**
Department of Energy (DOE) - Office of Energy Efficiency & Renewable (EERE)
"Physics-Guided Machine Learning (PGML) for Improved Aerostructure Manufacturing"
Aug. 2021–July 2023

Anahita Khojandi (PI) $10,000 out of $10,000 (in-kind)
Co-PIs: Theodoros Papamarkou, James Eales
Genomic Data Science Analysis, Visualization, and Informatics Lab-Space (AnVIL), National Human Genome Research Institute (NHGRI)
"Deep Learning for Accurate Tissue-Specific Prediction of Gene Expression in Large Deeply-Phenotyped Population"
May. 2021–Dec. 2021

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

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-Is: **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. 2022

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

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

FUNDED RESEARCH: INTERNAL

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

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) $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

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

- IE 200: 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)
- IE/CBE/ME/MSE/NE 483: 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)
- IE 465/565: Applied Data Science – Undergraduate/graduate level
  Spring 2021 (28 students – 4.6/5)
- DSE 597/697: Special Topics – Data Science for Additive Manufacturing (Data Science/Machine Learning Module) – Graduate level
  Spring 2021 (8 students)
- IE 607: 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)
- IE 691: 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,* Organizing Committee, 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; JMIR mHealth and uHealth; Journal of Ambient Intelligence and Humanized Computing; Journal of Global Optimization; Management Science; Omega, The International Journal of Management Science;

Operations Research; Optimization Letters; PLOS Digital Health; 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

Reviewer, Support for Affiliated Research Teams (StART) program, Summer 2021

TCE Dean Search Committee Member, Tickle College of Engineering, Spring 2021

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

Member, Peer-Teaching Evaluation Committee, Department of Industrial and Systems Engineering (ISE), Fall 2019, Spring 2021

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

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

Review Committee Member, Blavatnik National Awards, Fall 2018

Judge, Exhibition of Undergraduate Research and Creative Achievement (EUReCA), 2017–2021

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

Faculty 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