

PERSONAL INFORMATION

- **Last Name:** Sadeghiamirshahidi
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JOB INFORMATION

September 2026 – Present:

- Visiting Assistant Professor at the Department of Industrial Engineering and Management Science, North Western University

September 2022 – August 2026:

- Assistant Professor of Practice at the Department of Mechanical and Industrial Engineering, University of New Haven
- Program Coordinator for Master of Engineering and Operations Management (MSEOM)
- Program Advisor for Bachelor of Science in Mechanical Engineering (BSME)
- Undergraduate Course Coordinator (EASC 2232 – Project Management & Engineering Economy)
- Profile Link: <https://www.newhaven.edu/faculty-staff-profiles/narjes-sadeghiamirshahidi.php>

EDUCATION

- **August 2017- May 2022:**
Ph.D. Industrial Engineering, Department of Industrial, Manufacturing, and Systems Engineering, The University of Texas at Arlington (UTA), TX, USA.
Thesis Title: Evaluating and Addressing the Transportation Challenges of Small-Scale Farmers and Ranchers in Regional Food Systems, Texas, USA.
- **February 2012- February 2014:**
M.Sc. Industrial Engineering, Department of Manufacturing and Industrial Engineering, The Universiti of Teknologi Malaysia (UTM), Johor Bahru, Malaysia
Thesis Title: Development of a System Dynamic Model for Aggregate Planning in Supply Chain: Johor Bahru, Malaysia.
- **September 1998- September 2002:**
B.Sc. Industrial Engineering – Industrial Production, Faculty of Engineering, Yazd University, Yazd, Iran
Thesis Title: Identifying and measuring indicators of productivity at Polyester Plant of Polyacryl Company, Isfahan, Iran.

RESEARCH INTERESTS

- Data Analytics & Machine Learning
- Supply Chain Analytics and Resilience

Curriculum Vitae

- Simulation and Optimization: Agent-based Modeling, System Dynamics Modeling and Simulation, Discrete Event Simulation, Game Theory

ACADEMIC EXPERIENCE

August 2016- Present:

- **Courses Taught:**

IE 2308-Economics for Engineers
EGRM 6609 – Applied Statistics for Quality and Engineering Management
INDE 6608 – Applied Statistics & Probability Methods
INDE 6609-Descriptive and Inferential Statistics
EGRM /INDE 6611 – Decision Making under Uncertainty
EGRM /INDE 6617 – Engineering Economy and Cost Analysis
EGRM /INDE 6620 – Optimization and Applications
EGRM /INDE 6641 – Supply Chain Management
EGRM /INDE 6645 – Data Analytics
EGRM /INDE 6647 – Supply Chain Analytics and Resilience
EASC 2232 – Project Management & Engineering Economy
MECH 2201– Introduction to Applied Programming

- **Courses Developed:**

EGRM /INDE 6647 – Supply Chain Analytics and Resilience

- **Workshops:**

From Data to Decisions: Supply Chain Logistics Modeling in AnyLogic

ENGINEERING EDUCATION INNOVATION & KEEN ENTREPRENEURIAL MINDSET (EML) INTEGRATION

In addition to teaching, I actively engage in engineering education innovation. Through my involvement with KEEN (Kern Entrepreneurial Engineering Network), I have developed project-based modules that cultivate curiosity, connections, and value creation in engineering students. These experiences would allow me to contribute meaningfully to the Department's role in educational research and outreach initiatives.

I attended the following KEEN Conferences:

- 2023 KEEN Virtual Conferences
- 2024 KEEN Workshop in Austin, TX
KNC Session:
 - Play as a platform to spark EML conversation” to make connections, demonstrate curiosity, and create value through play-directed activity
 - Applying an entrepreneurial mindset to teach sustainability modules
 - Let's play: faculty teaching development through board games
 - Great ideas for teaching students: EM in the first-year session 2
- 2025 KEEN Summer Workshop: Engineering Unleashed Faculty Development Workshop in Cincinnati, OH

I am also attending the 2026 KEEN Summer workshop: Learning from Failure with Mastery-Based Learning (LFF), in Boise, ATL

I applied the EML Concepts, which I learned from KEEN Conferences and workshops, in my courses listed below:

- Fall 2023: I developed the "Supply Chain Inventory Management Project: A Role-Play Simulation Game" for the INDE/EGRM 6641- Supply Chain Management course to help students learn the concept of Bullwhip Effect as one of the Supply Chain Management complexities.

Curriculum Vitae

Please see my card in the Engineering Unleashed Portal entitled "Role-Play Simulation: Bullwhip Effect in Supply Chain" at <https://engineeringunleashed.com/card/edit/4225>

- Spring 2026: For EASC 2232- Project Management and Engineering Economy Course, I designed a project to evaluate students' knowledge regarding the "Cost of Production and Market Conditions" Entrepreneurially Minded (EM) Module, which is explicitly mapped to EASC 2232 in the EM framework and directly supports the course's engineering economics content. In the project, students work in teams to evaluate a proposed new product by applying EM concepts related to business models, market conditions, cost of production, and value creation. Students conduct market analysis, develop cost and revenue models, and perform financial evaluations to assess product feasibility. The activity requires students to integrate EM module knowledge into data-driven launch or no-launch recommendations, demonstrating applied entrepreneurial thinking through written reports, financial models, and presentations.

WORK TEACHING EXPERIENCE

Courses Taught:

- Concepts and Requirements of *ISO 9001* for Engineers and Technicians
- Internal Quality Audit Based on Requirements of *ISO 9001* for Engineers
- Concepts and Requirements of *ISO/TS 16949* for Engineers and Technicians
- Concepts & Techniques of *MSA, SPC, APQP, FMEA, PPAP, SQFE, COQ, MSP*
- Concepts & Techniques of *Problem-solving, Corrective & Preventive Action, 5S*

WORK/CONSULTANT EXPERIENCE

- **2008 - 2012: Safety Quality Searchers Engineering (SQS) Co.**

Quality Management System Consultant: Establishing, documenting, and implementing the requirements of ISO 9001:2002, ISO 9001:2005, ISO 9001:2008, ISO/TS 16949: 2002, ISO/TS 16949: 2009, ISO/TS 29001, ISO13485:2003.

- **2006 - 2008: Ring Khodro Pars (RKP) Co. (an automotive-related products producer)**

Systems & Methods Consultant: Establishing, documenting, and implementing the requirements of ISO/TS 16949 & Grad B SAPCO.

- **2005 - 2006: Satrap Jahan Co. (an automotive-related products producer)**

Quality Assurance & Control Consultant: Establishing, documenting, and implementing the requirements of ISO/TS 16949.

- **2002 - 2005: Novin Afarinan Sanaye (NASCO) Co.**

- **Control Project Engineer** (the first 6 months)
- **Quality Management System Engineer:** Establishing, documenting, and implementing the requirements of ISO 9001 & ISO/TS 16949.

FURTHER DETAILS ON WORK/CONSULTANT EXPERIENCE

Responsibilities and Job Description:

Title	Description
Establishing, documenting, and implementing the requirements of <i>ISO 9001:2008</i>	Training and implementing SPC, MSA, 5S Principals, Motion and time study, inventory planning and management, production planning, preventive and predictive repair and maintenance, control project via MSP, human engineering factors

Establishing, documenting, and implementing the requirements of <i>ISO/TS 16949:2009 & ISO/TS 29001</i>	Training and implementing SPC, MSA, FMEA, APQP, PPAP, SQFE, COQ, 5S Principals, Problem Solving techniques, Corrective & Preventive Action techniques, production planning, preventive and predictive repair and maintenance, control project via MSP, human engineering factors
Establishing, documenting, and implementing the requirements of <i>ISO 13485:2003</i>	Training and providing a technical file for each product based on obligations and requirements of ISO 13485 and the Ministry of Health and Medical

TRAINING COURSES

Course Title	Time
Requirements & Internal Quality Audit Based on the Requirements of ISO 13485	2009
Concepts & Requirements of 5S	2008
Concepts & Requirements of 6 Sigma	2008
Concepts & Techniques of Problem Solving	2008
Concepts & Techniques of Corrective & Preventive Action	2008
Concepts & Techniques of Team Working	2008
Familiarity with a variety of Engine Piston Rings	2008
Conceptions & Requirements of <i>ISO 9001</i>	2004
Internal Quality Audit Based on Requirements of ISO 9001	2004
Concepts & Implementation Methods of Calibration	2004
Concepts & Implementation Methods of Cost of Quality (COQ)	2004
Concepts & Implementation Methods of Statistical Process Control (SPC)	2004
Concepts & Implementation Methods of Measurement System Analysis (MSA)	2004
Concepts & Implementation Methods of Failure Mode & Effect Analysis (FMEA)	2004
Concepts & Implementation Methods of Advanced Product Quality Planning (APQP)	2004
Concepts & Implementation Methods of Product Part Approval Process (PPAP)	2004
Concepts & Implementation Methods of Quality Monitoring by the Supplier (SQFE)	2004
Conceptions & Requirements of ISO/TS 16949	2004
Internal Quality Audit Based on Requirements of ISO 9001	2004
Internal Quality Audit Based on Requirements of ISO/TS 16949	2004

SKILLS

- Simulation & Optimization Methods
- Supply Chain Management
- Production Planning
- Quality Engineering & Management
- Inventory Control & Management
- Quality Control & Assurance
- Work-Study (Motion and time study-using Stopwatch method)
- Efficiency and Effective analysis
- Establishing, documenting, and implementing requirements of ISO 9001, ISO/TS 16949, and ISO 13485

- Implementing the SPC method for quality control of products
- Performing MSA for calibration of tools
- Implementing 5S principals
- Implementing FMEA, APQP, PPAP, and SQFE for old and new products
- Implementing Problem-Solving techniques
- Implementing Corrective & Preventive Action to solve the factory's issues
- Using COQ for controlling and managing inventory and product costs
- Implementing industrial accounting to calculate product final costs

COMPUTER/PROGRAMMING SKILLS

- Simulation Software & Programming Tools: Python, MATLAB, NetLogo, AnyLogic, Arena, Witness, Visual Basic
- Statistical Software: Power BI, Tableau, Minitab, Expert-Design
- Project Management and Scheduling Software: Microsoft Project
- Decision-Making Software: Expert Choice
- Qualitative Data Analysis Software: ATLAS.ti, NVivo
- System Dynamics Simulation Software: iThink, Vensim
- Application Design: AppSheet
- Miscellaneous: Microsoft Office Package, Visio

PUBLICATIONS

[PEER-REVIEWED JOURNAL ARTICLES:](#)

Sadeghiamirshahidi, Narjes, Seyedeh Elham Kamali, and Bhavani Rath Reddy Dere. "[Applications of Machine Learning Across Smart Manufacturing, Healthcare, Finance, Computer Vision, Robotics, and Environmental & Sustainability: A Systematic Literature Review.](#)" *Applied Sciences* 16.13 (2026): 6574.

Narjes Sadeghiamirshahidi, Seyedeh Elham Kamali, "[Applications of Machine Learning Across Smart Manufacturing, Healthcare, Finance, and Environmental & Sustainability: A Comprehensive Review](#)", 2025, IEEE Access, under review

Narjes Sadeghiamirshahidi, Bhavanirath Reddy Dere, Seyedeh Elham Kamali, "[Smart Cotton Procurement: Leveraging Machine Learning Approach to Cotton Fiber Classification and Bale Optimization in Ginning Operations](#)", 2025, Engineering Applications of Artificial Intelligence, under review

Marzieh Soltanolkottabi, **Narjes Sadeghiamirshahidi**, "[Modeling Panic Buying in Supply Chains: An Agent-Based Modeling Approach in a Spatial Evolutionary Game Theory Framework for Decision-Making](#)", 2025, Journal of Modeling Management, under review

Amy Marusak, **Narjes Sadeghiamirshahidi**, Caroline C. Krejci, Anuj Mittal, Sue Beckwith, Jamie Cantu, Mike Morris, Jason Grimm, "[Resilient regional food supply chains and rethinking the way forward: Key takeaways from the COVID-19 pandemic](#)", (2021), Agricultural Systems, 190, 103101.

Narjes Sadeghiamirshahidi, Anuj Mittal, Caroline C. Krejci, "[An agent-based model of digitally-mediated farmer transportation collaboration](#)", (2021), Springer.

Narjes Sadeghiamirshahidi, Jafar Afshar, Ali Reza Firouzi, Syed Ahmad Helmi bin Syed Hassan, "[Improving the Efficiency of Manufacturing Supply Chain Using System Dynamic Simulation](#)", Journal Teknologi (Sciences & Engineering) (2014), 69 (2): 123–125.

Jafar Afshar, **Narjes Sadeghiamirshahidi**, Ali Reza Firouzi, Seyed Mojib Zahraee, Syed Ahmad Helmi bin Syed Hassan, "[Improving the inventory levels of a blood supply chain through system dynamic simulation](#)", Journal Teknologi (Sciences & Engineering) (2014), 69 (6):1–4.

PEER-REVIEWED INTERNATIONAL CONFERENCE PROCEEDINGS:

Amin Gharehyakheh, **Narjes Sadeghiamirshahidi**. "A sustainable approach in food bank logistics" In Proceedings of the International Annual Conference of the American Society for Engineering Management., (2018), pp. 1-8. American Society for Engineering Management (ASEM).

Narjes Sadeghiamirshahidi, Caroline C. Krejci, Jamie Cantu, "Multi-criteria decision analysis for regional food logistics systems", (2018), Proceedings of the 2018 IISE Annual Conference.

Jafar Afshar, **Narjes Sadeghiamirshahidi**, Ali Reza Firouzi, Shahab Shariatmadari, Syed Ahmad bin Syed Hassan Helmi, "System Dynamics Analysis of a Blood Supply Chain System". Applied Mechanics and Materials, (2014), 510, 150-155.

Jafar Afshar, **Narjes Sadeghiamirshahidi**, Seyed Mojib Zahraee, Marzieh Geramian Nik, Noordin bin Hj. Mohd. Yusof, "Modeling and Analyzing the Queuing Bank System using Computer Simulation and Design of Experiment", PPI UTM Technology, Education, and Science of International Conference (TESIC) 2013, 20-21 November, Skudai, Johor, Malaysia.

PUBLICATIONS – CONT'D

POSTERS:

Narjes Sadeghiamirshahidi, Amy Marusak, Pranav Uday Mulay, Anuj Mittal, Caroline C. Krejci, Jaime Cantu, "Addressing the Transportation Challenges for Texas Farmers and Ranchers", 2021.

Amy Marusak, **Narjes Sadeghiamirshahidi**, Anuj Mittal, Caroline C. Krejci, Jaime Cantu, "Designing a Virtual Logistics Community for Texas Farmers", 2020.

- **Google Scholar Link:** <https://scholar.google.com/citations?hl=en&user=KAAbMQ-sAAAAJ>
- **ORCID Link:** <https://orcid.org/0009-0002-0878-2126>

REVIEWER

PEER-REVIEW JOURNAL ARTICLES REVIEWER:

- Reviewer of Journal of Simulation
- International Journal of System Assurance Engineering and Management
- MDPI

PROPOSALS SUBMITTED FOR FUNDING

- NSF IUSE for Integration of AI with Undergraduate courses that I am teaching at the University of New Haven, as listed below – Under Review:
 - **EASC 2232 – Project Management and Engineering Economy**
 - **MECH 2201– Introduction to Programming**
- Using Crowdsourced Data to Enhance Transportation Asset Inventory and Condition Assessment for *National Cooperative Highway Research Program (NCHRP)* – Under Review
- Proven Safety Countermeasure Implementation for *Wisconsin Department of Transportation (WisDOT)* – Under Review
- Safety Project Prioritization Wisconsin Department of Transportation (WisDOT) – Under Review
- Pavement Quality Evaluation Using Connected Vehicle Data – for *Minnesota Department of Transportation (Minnesota DOT)* – Not funded
- Investigating Parent-Taught Driver Education Performance for *Iowa Department of Transportation (IowaDOT)* – Not funded

Curriculum Vitae

- Modeling Panic Buying Behavior in Supply Chain: An Agent- Based Simulation Approach in a Game Theoretic Framework for Decision Making for NSF – **Decision, Risk and Management Science (DRMS) Section (PD 23-1321)**

PROFESSIONAL MEMBERSHIP & SERVICES

- Ph.D. Advisor for **Engineering and Applied Science – Spring 2026 - Present**
- Professional Member of the Institutions of Industrial and Systems Engineering (IISE)
- Track Chair of 2026 IISE Annual Conference – Data Analytics and Information Systems (DAIS) Division
- Judge for the Case Study Competition – 2026 IISE Student Data Analytics Competition
- Professional Member of the American Society for Engineering Education (ASEE)
- Judge for Graduate Research Competition – College of Engineering, University of New Haven
- Judge for Undergraduate and Graduate Engineering Research Competition – Quinnipiac University

ACADEMIC REWARDS AND HONORS

- Nomination for the Teaching Excellence Award at the University of New Haven
- Full Scholarship for the Ph.D. Program from the University of Texas at Arlington
- Four years of Partial Scholarship for undergraduate studies from Yazd University