GOKSU AVDAN, PhD

Tenure-Track Assistant Professor
Department of Engineering Technology

EDUCATION

Ph.D. 2020-2024	Engineering Science in Industrial and Quality Engineering Southern Illinois University, Carbondale, IL
M.S. 2017 – 2019	Industrial Engineering Southern Illinois University, Edwardsville, IL
B.S. 2012 – 2017	Industrial Engineering (Dual Diploma Program) Southern Illinois University, Edwardsville, IL Istanbul Technical University, Istanbul, Turkey

EXPERIENCE

Academic

Assistant Professor 2024 – Present	Department of Engineering Technology Missouri Western State University, St. Joseph, MO
Instructor 2021 – 2024	Department of Industrial Engineering Southern Illinois University, Edwardsville, IL
Research Assistant 2020 – 2020 2017 – 2019	Department of Industrial Engineering Department of Electrical and Computer Engineering Southern Illinois University, Edwardsville, IL

PUBLICATIONS

Journal Papers *(*Corresponding Author)*

1. **Avdan G**, Onal S., Lu C. IMU-Trans: imputing missing motion capture data with unsupervised transformers. *Neural Computing and Applications, 2025.*
2. Roy D, **Avdan G***, Cho S. Evaluating Worker Performance and Ergonomic Risks Using EMG and Kinematics: A MIMO Approach. *Journal of Applied Research on Industrial Engineering, 2025.*
3. **Avdan G**, Chen CB, Onal S. An alternative EMG normalization method: Heterogeneous recurrence quantification analysis of maximum voluntary isometric contraction movements. *Biomedical Signal Processing and Control*, 2024. 93, 106219.
4. Roy D, Cho S, **Avdan G**. Data Envelopment Analysis (DEA) for Improving Ergonomics and Workplace Performance. *Journal of Applied Research on Industrial Engineering*, 2024. 11 (1): 24-36.
5. **Avdan G**, Onal S, Smith BK. Normalization of EMG signals: Optimal MVC positions for the lower limb muscle groups in healthy subjects. *Journal of Medical and Biological Engineering*, 2023. 43(2): 195-202.

6. **Avdan G**, Onal S, Rekabdar B. Regression transfer learning for the prediction of three-dimensional ground reaction forces and joint moments during gait. *International Journal of Biomedical Engineering and Technology*, 2023. 42(4): 317-338.
7. Gunasekera J, **Avdan G**, Lee HF, Kweon S, Klingensmith JD. Investigating the effects of external pressure on coronary arteries with plaques and its role in coronary artery disease. *Journal of Medical Engineering & Technology*, 2022. 46 (7): 624-632.

Conference Proceedings

1. Sweiger K, **Avdan G**. Bio-Based Neck Orthosis Design: Structural Comparison of Circular, Elliptical, and Honeycomb Patterns Using Finite Element Analysis. IEEE 8th International Conference on Electrical, Electronics, and System Eng. 2025 (Sep 9-11).
2. **Avdan G**, Onal S. Lean Thinking in Healthcare 5.0 Technologies: An Exploratory Review. Industrial Engineering and Operations Management, 2024 (June 4-6), Washington, DC.
3. **Avdan G**, Onal S. Resilient Healthcare 5.0: Advancing Human-Centric and Sustainable Practices with Wearable Devices. *IISE Annual Conference and Expo*, 2024.
4. **Avdan G**, Chen CB, Onal S. Investigation of an alternative EMG normalization technique: Recurrence quantification analysis of maximum voluntary contractions. *Institute of Industrial and Systems Engineering (IISE) Annual Conference and Expo*, 2023 (May 20-23), New Orleans, LA.
5. Roy D, Cho S, **Avdan G**. Ergonomic risk and performance assessment using data envelopment analysis (DEA). *IISE Annual Conference and Expo*, 2023 (May 20-23), New Orleans, LA.

PROFESSIONAL ACTIVITIES

Research Grants & Travel Awards

2025 MWSU Summer Fellowship – Faculty Research Grant Program, Amount: $7,500

2024 SIUE Research Equipment and Tools Funding (Co-authored), Amount: $22,100

2023 IEEE Biomedical & Health Informatics 23 NSF Travel Award, Amount: $250

2021 Research Grants for Research Doctoral Students, SIUE, Amount: $1,000

Reviewed for

- npj Digital Medicine, *Nature* (IF: 15.1)
- Artificial Intelligence Review, *Springer* (IF: 13.9)
- IEEE Transactions on Consumer Electronics (IF: 10.9)
- Journal of NeuroEngineering and Rehabilitation , *BMC Springer* (IF: 5.2)
- Biomedical Signal Processing and Control, *Elsevier* (IF: 4.9)
- Scientific Reports, *Nature* (IF: 3.9)
- Journal of Electromyography and Kinesiology, *Elsevier* (IF: 2.3)

Memberships

- Institute of Electrical and Electronics Engineers (IEEE)
- IEEE Engineering in Medicine & Biology Society (EMBS)