Zeyu (Louis) Liu

Department of Industrial & Management Systems Engineering, West Virginia University
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Education

Doctor of Philosophy, Industrial Engineering
The University of Tennessee, Knoxville, TN, USA *Sept. 2018 – Aug. 2022*
Advisors: Xueping Li and Anahita Khojandi
Thesis: "Optimizing strategic planning with long-term sequential decision making under uncertainty: a decomposition approach"

Bachelor of Management, Information Management & Information Systems
Southeast University, Nanjing, Jiangsu, China *Sept. 2014 – June 2018*

Academic Experience

West Virginia University (WVU)
Department of Industrial & Management Systems Engineering
Assistant Professor *Aug. 2022 – Present*

Award and Honor

First Place, Harvey J. Greenberg Research Award *2022*
INFORMS Computing Society

The Graduate Advancement, Training and Education Program *Aug. 2021 – Aug. 2022*
The University of Tennessee and Oak Ridge National Laboratory

Tennessee Fellowship for Graduate Excellence *Aug. 2018 – Aug. 2022*
The University of Tennessee

Spike Tickle STEM Fellowship *Aug. 2018 – Aug. 2021*
The University of Tennessee

Refereed Paper

1. **Zeyu Liu**, Mohammad Ramshani, Anahita Knojandi, and Xueping Li (2023). "Optimal Utilization of Integrated Photovoltaic Battery Systems – An Application in Residential Sector". *IISE Transactions* published online, 1–14.
2. Zefeng Lyu, **Zeyu, Liu**, Anahita Khojandi, and Andrew Junfang Yu (2022). "Q-learning And Traditional Methods on Solving The Pocket Rubik's Cube". *Computers & Industrial Engineering* 171, 108452.
3. **Zeyu, Liu**, Xueping Li, and Anahita Khojandi (2022). "The Flying Sidekick Traveling Salesman Problem With Stochastic Travel Time: A Reinforcement Learning Approach". *Transportation Research Part E: Logistics and Transportation Review* 164, 102816.

4. **Zeyu, Liu**, Anahita Khojandi, Xueping Li, Akram Mohammed, Robert L Davis, and Rishikesan Kamaleswaran (2022). "A Machine Learning–Enabled Partially Observable Markov Decision Process Framework for Early Sepsis Prediction". *INFORMS Journal on Computing* to appear.
5. Rodney Kizito, **Zeyu, Liu**, Xueping Li, and Kai Sun (2022). "Multi-stage Stochastic Optimization of Islanded Utility-microgrids Design After Natural Disasters". *Operations Research Perspectives* 9, 100235.
6. Rodney Kizito, **Zeyu Liu**, Xueping Li, and Kai Sun (2021). "Stochastic Optimization of Distributed Generator Location And Sizing in An Islanded Utility Microgrid During A Large-scale Grid Disturbance". *Sustainable Energy, Grids and Networks* 27, 100516.
7. Chuang Liu, Huaping Chen, Xueping Li, and **Zeyu Liu** (2021). "A scheduling decision support model for minimizing the number of drones with dynamic package arrivals and personalized deadlines". *Expert Systems with Applications* 167, 114157.
8. **Zeyu Liu**, Anahita Khojandi, Akram Mohammed, Xueping Li, Lokesh K Chinthala, Robert L Davis, and Rishikesan Kamaleswaran (2021). "HeMA: A Hierarchically Enriched Machine Learning Approach for Managing False Alarms in Real Time: A Sepsis Prediction Case Study". *Computers in Biology and Medicine* 131, 104255.
9. **Zeyu Liu**, Xueping Li, and Anahita Khojandi (2020). "On the k-Strong Roman Domination Problem". *Discrete Applied Mathematics* 285 (15), 227–241.

Refereed Conference Proceedings

1. Xudong Wang, Kimon Swanson, **Zeyu Liu**, Gerald Jones, and Xueping Li (2022). "A Simulation-Heuristic Approach to Optimally Design Drone Delivery Systems in Rural Areas". *Proceedings of the 2022 Winter Simulation Conference (WSC)*. Singapore, pp. 1–13.
2. Ahmad Mitoubsi, **Zeyu Liu**, Danny Banks, Anahita Khojandi, Michael Oliver, Daniel Cox, and Roberto Fernandez (2021). "Evaluating the Fitness-to-Drive Using Evoked Visual Responses in Alzheimer's Disease". *43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society*. Virtual, to appear.
3. **Zeyu Liu**, Xueping Li, and Anahita Khojandi (2019). "On the Extension of Schelling's Segregation Model". *Proceedings of the 2019 Winter Simulation Conference (WSC)*. National Harbor, MD, USA, pp. 285–296.

Paper Under Review or Revision

1. **Zeyu Liu**, Xueping Li, and Anahita Khojandi (2022). "A Primal-dual Policy Iteration Algorithm for Constrained Markov Decision Processes". Under review at *Stochastic Systems*.
2. Xudong Wang, **Zeyu Liu**, and Xueping Li (2022). "Optimal Delivery Route Planning for A Fleet of Heterogeneous Drones: A Rescheduling-based Genetic Algorithm Approach". Under review at *Computers & Industrial Engineering*.
3. Rachel Wood-Ponce, Ghada Diab, **Zeyu Liu**, Ryan Blanchette, Anahita Khojandi, and Jon Hathaway (2022). "Developing Data-Driven Learning Models to Predict Urban Stormwater: A Case Study". Under review at *Environmental Modelling and Software*.

Student Advising Committee

- Master's Committee Membership

  - Department of Industrial & Management Systems Engineering
    1. Md Rabiul Hasan, expected Spring 2024
    2. Tasmiah Haque, expected Spring 2024

Teaching

- IENG 350: Introduction to Operations Research - Undergraduate level
  - Spring 2023 (40 students, –/5.0)

Service to The Profession

- INFORMS
  - *Session Chair*, INFORMS Annual Meeting, 2020 – 2021
- IISE
  - *Session Chair*, IISE Annual Conference & Expo, 2020 – 2022
- Journal Referee
  - *Optimization Letters*; *Transportation Science Part E: Logistics and Transportation Review*

Professional Society Membership

- INFORMS
  - Computing Society (ICS), Decision Analysis Society (DAS), Health Applications Society (HAS), Junior Faculty Interest Group (JFIG)
- IISE

Service to West Virginia University

- Department of Industrial & Management Systems Engineering
  - *Member*, Undergraduate Academic Affairs Committee, Aug. 2022 – Present
  - *Member*, Industrial Engineering Graduate Program Sub-Committee, Aug. 2022 – Present
  - *Member*, 2022–2023 IMSE Faculty Search Committee, Aug. 2022 – Present