Zeyu (Louis) Liu

Department of Industrial & Management Systems Engineering, West Virginia University 333 Engineering Science Building, 1306 Evansdale Drive, Morgantown, WV 26506-6107

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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

The University of Tennessee

Aug. 2018 - Aug. 2021

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