Juan-Alberto Estrada-Garcia
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Department of Industrial and Operations Engineering
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Research Interests

- Theories: stochastic and distributionally robust optimization, reinforcement learning, integer programming
- Applications: logistics, scheduling, system inspection and maintenance
- Computational Methods: distributed computation, parallel computation

Education

- PhD, 2022 – present, Department of Industrial and Operations Engineering, University of Michigan, Ann Arbor, MI
  - Advisor: Prof. Siqian Shen
- B.S., 2017 – 2021, Engineering Management, University of Monterrey (UDEM), Mexico.
  (GPA: 4.0/4.0)

Honors and Awards

- 2023, Michigan Institue for Computational Discovery and Engineering (MICDE) Student Fellowship
- 2023, Best Conference Paper Award Finalist in the IEE 19th International Conference on Automation Science and Engineering (CASE 2023)
- 2023, Rackham Travel Award, University of Michigan, Ann Arbor
- 2022, Engineering Graduate Fellowship, University of Michigan, Ann Arbor
- 2022, Best Track Modeling & Simulation Paper in 2022 IISE Annual Conference & Expo
- 2022, IEOM 12^{th} Int. Conference, Undergraduate Research Competition (URC), 2^{nd} place
- 2021, IEOM 6^{th} North American Conference, URC, 2^{nd} place
- 2020, Tecnológico de Monterrey, Conexión Tec Social Impact Project 3^{rd} place
- 2020, IEOM Industrial Engineering Student Excellence Award
- 2017, University of Monterrey Academic Excellence Scholarship

Publications

Journal Publications

1. Jenny Díaz-Ramírez, **Juan-Alberto Estrada-Garcia**, Juliana Figueroa-Sayago. "Predicting imbalanced transport mode choice preferences in a university district with decision tree-based models", *City and Environment Interactions*, 2023.

Working Papers

1. **Juan-Alberto Estrada-Garcia**, Bo Zhou, Ruiwei Jiang, Siqian Shen, "Static and dynamic infrastructure system monitoring under uncertain time-dependent failures", working paper.
2. **Juan-Alberto Estrada-Garcia**, Mingjie Bi, Dawn M. Tilbury, Kira Barton, and Siqian Shen, "Risk-averse stochastic optimization for supply chain design and reconfiguration under uncertain lead-time and demand disruptions", working paper.
3. Mingjie Bi, **Juan-Alberto Estrada-Garcia**, Dawn M. Tilbury, Siqian Shen, and Kira Barton, "Heterogenous risk management using a multi-agent framework for supply chain disruption response", working paper.

Refereed Conference Proceedings

1. **Juan-Alberto Estrada-Garcia**, Mingjie Bi, Dawn M. Tilbury, Kira Barton, and Siqian Shen. "A multi-objective mixed-integer programming approach for supply chain disruption response with lead-time awareness", accepted to 2023 IEEE 19th International Conference on Automation Science and Engineering (CASE).
2. **Juan-Alberto Estrada-Garcia**, Siqian Shen, Wen Ye, "A simulation framework to evaluate efficiency and safety of public transportation systems during pandemic", 2022 IISE Annual Conference.
3. **Juan-Alberto Estrada-Garcia**, Siqian Shen, Wen Ye, "Interactive dashboards to link COVID-19 pandemic and human mobility trends", 2022 IISE Annual Conference.
4. **Juan-Alberto Estrada-Garcia**, Juliana Figueroa, Ezequiel González, Jenny Díaz - Ramírez, "Discrete choice models for transportation mode choice: A systematic literature review", IEOM 6^{th} North American Conference, November 2021.

Conference Talks and Presentations

1. 2022, "A simulation framework to evaluate efficiency and safety of public transportation systems during pandemic", 2022 Center for Healthcare Engineering & Patient Safety (CHEPS) Symposium, Ann Arbor, MI.
2. 2022, "A simulation framework to evaluate efficiency and safety of public transportation systems during pandemic", IISE Annual Conference and Expo, Seattle WA, May 2022.
3. 2022, "Interactive dashboards to link COVID-19 pandemic and human mobility trends", IISE Annual Conference and Expo, Seattle WA, May 2022.
4. 2021, "Discrete choice models for transportation mode choice: A systematic literature review", IEOM 6^{th} North American Conference, Monterrey, Mexico.
5. 2020 "Traffic microsimulation to assess smart mobility strategies", RELIEVE Research Seminar (Virtual).

Coursework

- **University of Michigan**
  - IOE 618: Stochastic Optimization, IOE 610: Linear Programming
  - IOE 511: Continuous Optimization Methods, IOE 512 Dynamic Programming
  - IOE 515: Stochastic Processes I, IOE 516: Stochastic Processes II
  - IOE 543: Scheduling

*IOE = Industrial and Operations Engineering

Industry Experience

- Solutions Developer, Softtek, February 2022 – July 2022
  - Developed software applications for data analysis and predictive analysis across industries.
- Data analytics consultant, HEB Mexico, August 2020 – December 2020
  - Applied regression models for prediction of demand of commodities affected by supplier failure.

Professional Skills

Languages (conversational and written levels)

- Spanish: Native, English: High proficiency (106 TOEFL IBT)
- Italian: Intermediate, French: Basic

Computer Skills

- Python, Matlab, R, Gurobi