

# Yajun Lu

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## Education

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<b>Ph.D.</b> , Industrial Engineering & Management <b>Oklahoma State University</b> , Stillwater, Oklahoma Dissertation title: Finding second-order clubs (Advisor: Dr. Baski Balasundaram)	(GPA: 3.8/4)	2014–2019
<b>M.S.</b> , Industrial Engineering <b>Huazhong University of Science and Technology</b> , Wuhan, China		2008–2011
<b>B.S.</b> , Industrial Engineering <b>Zhongyuan University of Technology</b> , Zhengzhou, China		2004–2008

## Appointments

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<b>Department of Management &amp; Marketing</b> Assistant Professor of Analytics & Operations Management	<b>Jacksonville State University</b> August 2021–Present
<b>Department of Analytics &amp; Operations Management</b> Visiting Assistant Professor of Business Analytics	<b>Bucknell University</b> August 2019–May 2021
<b>Department of Industrial Engineering</b> Industrial Engineer Job duty: Data Analytics, Supply Chain Management, Manufacturing	<b>Huawei Technologies Co., Ltd.</b> March 2011–July 2014

## Research Interests

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- ◇ Business Analytics, Healthcare Analytics and Operations, Artificial Intelligence, Graph-based Data Mining, Social Media Analytics, Network Optimization

## Publications

### Refereed Journal Papers

1. **Yajun Lu**, Zhuqi Miao, Parisa Sahraeian, and Balabhaskar Balasundaram. On Atomic Cliques in Temporal Graphs, *Optimization Letters*, 17(4):813-828, 2023.
2. **Yajun Lu**, Hosseinali Salemi, Balabhaskar Balasundaram, and Austin Buchanan. On finding fault-tolerant low-diameter clusters in graphs, *INFORMS Journal on Computing*, 34(6):3181-3199, 2022 (on the [UTD-24](#) list).
3. **Yajun Lu**, Suhao Chen, Zhuqi Miao, Dursun Delen, and Andrew Gin. Clustering temporal disease networks to assist clinical decision support systems in visual analytics of comorbidity progression. *Decision Support Systems*, 148:113583, 2021 ([ranked A\\*](#) on the ABDC list).
4. Chun-Miin Chen & **Yajun Lu**. Shipment Sizing for Autonomous Trucks of Road Freight. *International Journal of Logistics Management*, 32(2):413-433, 2021 ([ranked A](#) on the ABDC list).

5. **Yajun Lu**, Esmael Moradi, and Balabhaskar Balasundaram. Correction to: Finding a maximum  $k$ -club using the  $k$ -clique formulation and canonical hypercube cuts, *Optimization Letters*, 12(8):1959–1969, 2018.
6. **Yajun Lu** and J. Cecil. An Internet of Things (IoT)-based collaborative framework for advanced manufacturing, *The International Journal of Advanced Manufacturing Technology*, 84(5-8):1141–1152, 2016.
7. J. Cecil, Bharathi Raj Kumar, **Yajun Lu**, and Vinod Basallali. A review of micro-devices assembly techniques and technology, *The International Journal of Advanced Manufacturing Technology*, 83(9-12):1569–1581, 2016.
8. **Yajun Lu**, Qingjiang Han, and Yunqing Rao. Path optimization in metal cutting based on common line cutting method, *Machinery Design and Manufacture*, 6:120–122, 2011.
9. Qingjiang Han, **Yajun Lu**, and Yunqing Rao. Plate cutting NC machining Simulation system based on OpenGL, *Manufacturing Automation*, 32(11):57–62, 2010.

### Refereed Conference Proceedings

10. **Yajun Lu**, J. Cecil, Blayne Mayfield, and Parmesh Ramanathan. A next generation IoT based approach for collaborative manufacturing, *Proceedings of the 2016 Industrial and Systems Engineering Research Conference*, Anaheim, CA, May 2016.
11. **Yajun Lu**, J. Cecil, and Zak Zafar. The creation of Collaborative Cyber Physical Environments for Micro Assembly. *Proceedings of the ASME 2015 International Mechanical Engineering Congress and Exposition*, Houston, TX, November 13-19, 2015.
12. **Yajun Lu** and J. Cecil. An internet of things (IoT) based cyber physical framework for advanced manufacturing. In *OTM Confederated International Conferences "On the Move to Meaningful Internet Systems"*, pp. 66-74, Springer, October 2015.

### Under Review/Revision (manuscripts available upon request)

13. **Yajun Lu**, Thanh Duong, Zhuqi Miao, Thanh Thieu, Jivan Lamichhane, Abdulaziz Ahmed, and Dursun Delen. A Novel Hyperparameter Search Approach for Accuracy and Simplicity in Disease Prediction Risk Scoring, Major revision at *Journal of the American Medical Informatics Association*, January 2024.
14. Hao Pan, **Yajun Lu**, Balabhaskar Balasundaram, and Juan S. Borrero. Finding Conserved Low-Diameter Subgraphs in Social and Biological Networks, under first revision at *Networks*, September 2023.
15. Chao Liu, **Yajun Lu**, Jacob Littleton, and Dursun Delen. Positive Influence Dominating Sets in Social Networks to Foster Wellness and Educational Aspirations, submitted to *Health Education & Behavior*, January 2024.

### Working Papers

16. **Yajun Lu** and Balabhaskar Balasundaram. On Induced Conflict Formulations for Low-Diameter Clusters, target journal: *Operations Research*.
17. Parisa Vaghfi Mohebbi, **Yajun Lu**, Zhuqi Miao, Balabhaskar Balasundaram, Pankush Kalgotra, and Ramesh Sharda. Identifying High Mortality Rate Disease Clusters in Comorbidity Graphs, to be submitted to *INFORMS Journal on Computing* in December 2023 (poster presentation Honorable Mention at the PanOptiC 2023 Workshop, University of Florida, March 9-10, 2023).

### Work In Progress

18. When does the Emergency Department need help the most? Identifying trigger conditions of the full capacity protocol (with Lu Wang, Mazhar Arkan, and Suman Mallik).

## Selected Conference Presentations

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1. **Yajun Lu**, Thanh Duong, Thanh Thieu, Zhuqi Miao, and Dursun Delen. Balancing the Scale and the Accuracy of a Risk Index: An Enhanced Automatic Risk Score Generator for Health Condition Prediction. DSI 2023 Annual Conference, November 18–20, 2023, Atlanta, Georgia
2. **Yajun Lu**, Zhuqi Miao, Parisa Sahraeian, and Balabhaskar Balasundaram. On Atomic Cliques in Temporal Graphs. INFORMS 2023 Annual Meeting, October 15–18, 2023, Phoenix, Arizona.
3. **Yajun Lu**, Zhuqi Miao, Parisa Sahraeian, and Balabhaskar Balasundaram. On Atomic Cliques in Temporal Graphs. Workshop: PANOPTIC View on Global Optimization, March 9–10, 2023, University of Florida, Gainesville, Florida.
4. **Yajun Lu**, Thanh Duong, Thanh Thieu, and Zhuqi Miao. Balancing the Scale and the Accuracy of a Risk Index: An Enhanced Automatic Risk Score Generator for Health Condition Prediction. INFORMS 2022 Annual Meeting, October 16–19, 2022, Indianapolis, Indiana.
5. **Yajun Lu**, Suhao Chen, Zhuqi Miao, Dursun Delen, and Andrew Gin. Clustering Temporal Disease Networks to Assist Clinical Decision Support Systems in Visual Analytics of Comorbidity Progression. Decision Sciences Institute, November 19, 2021, Virtual Conference.
6. **Yajun Lu**, Hosseinali Salemi, Balabhaskar Balasundaram, and Austin Buchanan. On finding fault-tolerant low-diameter clusters in graphs. INFORMS 2021 Annual Meeting, October 24–27, 2021, Anaheim, California
7. **Yajun Lu**, Suhao Chen, Zhuqi Miao, Dursun Delen, and Andrew Gin. Detecting Comorbidity Progression Using Temporal Disease Networks: A Case Study on *Clostridioides Difficile*. DSI 2020 Annual Conference, November 21–23, 2020, Virtual Conference
8. **Yajun Lu**, Hosseinali Salemi, Austin Buchanan, and Balabhaskar Balasundaram. On finding fault-tolerant low-diameter clusters in graphs. INFORMS 2020 Annual Meeting, November 8–11, 2020, Virtual Conference
9. **Yajun Lu**, Suhao Chen, Zhuqi Miao, Dursun Delen, and Andrew Gin. Detecting Comorbidity Progression Using Temporal Disease Networks: A Case Study on *Clostridioides Difficile*. INFORMS 2020 Annual Meeting, November 8–11, 2020, Virtual Conference
10. **Yajun Lu**, Hosseinali Salemi, Austin Buchanan, and Balabhaskar Balasundaram. On fault-tolerant low-diameter clusters in graphs. INFORMS Telecommunications and Network Analytics Conference (TNAC) 2020, October 20–21, 2020, Virtual Conference
11. **Yajun Lu**, Hosseinali Salemi, Hao Pan, Balabhaskar Balasundaram, Austin Buchanan, and Sunderesh Heragu. Formulation and Solution of Master Production Planning in Large Scale Private Label Manufacturing. DSI 2019 Annual Conference, November 23–25, 2019. New Orleans, Louisiana
12. **Yajun Lu**, Hosseinali Salemi, Balabhaskar Balasundaram, and Austin Buchanan. Fault-tolerant s-clubs. 2019 INFORMS Annual Meeting, October 20–23, 2019, Seattle, Washington Cancún, Mexico (Presented by coauthor Balabhaskar Balasundaram)
13. **Yajun Lu** and Balabhaskar Balasundaram. On detecting second-order 2-clubs in graphs. 2018 INFORMS Annual Meeting, November 4–7, 2018, Phoenix, Arizona
14. **Yajun Lu**, J. Cecil, Blayne Mayfield, and Parmesh Ramanathan. A next generation IoT based approach for collaborative manufacturing. IISE Annual Conference & Expo 2016, May 21–24, 2016, Anaheim, California
15. **Yajun Lu**, J. Cecil, and Zak Zafar. The Creation of Collaborative Cyber Physical Environments for Micro Assembly. ASME 2015 International Mechanical Engineering Congress and Exposition, November 13–19, 2015, Houston, Texas

## Teaching Experience

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### Jacksonville State University

1. CBA 390: Operations Management, In-person and Online sections
  - ◇ FA23, SU23 (4.82/5), SP23 (4.62/5 and 4.04/5), FA22 (4.49/5), SU22 (4.91/5), SP22 (4.69/5 and 4.74/5), FA21 (4.71/5), SU21 (4.5/5)
2. BA 545: Quantitative Methods for Business Decision Making, MBA–Hybrid
  - ◇ FA23 (5/5), FA22 (4.98/5), SU22 (4.85/5), FA21 (4.9/5), SU21 (4.53/5)
3. BA 550: Supply Chain Analytics, MBA–Hybrid
  - ◇ SP23 (4.96/5), SP22 (4.99/5)

### Bucknell University (there are no teaching evaluation scores but detailed comments at Bucknell)

4. ANOP 102: Spreadsheet Modeling & Data Analysis, In-person
  - ◇ SP21, FA20, SP20, FA19
5. ANOP 202: Operations Management, In-person
  - ◇ SP21, FA20, SP20, FA19

### Oklahoma State University

6. IEM 4013: Operations Research, In-person
  - ◇ SP19 (4.27/5)

## Selected Honors, Awards & Grants

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- ◇ Nominee for Dean’s Research Award, College of Business & Industry, Jacksonville State University, August 2023
- ◇ Summer Research Grant, “*Balancing the Scale and the Accuracy of a Risk Index: An Enhanced Automatic Risk Score Generator for Health Condition Prediction*”, \$9500, College of Business & Industry, Jacksonville State University, Summer 2023
- ◇ Faculty Research Activity Award, Jacksonville State University, Jacksonville, AL, April 2023
- ◇ Faculty Research Activity Award, Jacksonville State University, Jacksonville, AL, April 2022
- ◇ Second Place Prize (\$3000), Hacking Health Competition, Geisinger Medical Center, Scranton, PA, October 5, 2019.
- ◇ Graduate College Dissertation Writing Workshop Award, Oklahoma State University, January 2019
- ◇ Selected for NFORMS Doctoral Student Colloquium, Phoenix, Arizona, November, 2018
- ◇ The Best Demo Second Runner-up Award, National Science Foundation (NSF) GENI Engineering Conference 24, Phoenix, Arizona, March 2016
- ◇ Recipient of NSF Travel Grant Award to attend GENI Conference 24, March 2016
- ◇ Alpha Pi Mu, Oklahoma State University, November 2015
- ◇ The Best Demo Second Runner-up Award, US Ignite & NSF GENI Engineering Conference 22, Washington D.C., March 2015
- ◇ Recipient of NSF Travel Grant Award to attend GENI Conference 22, March 2015

- ◇ Recipient of Oklahoma State University Graduate Fellowship, August 2014
- ◇ Recipient of Graduate Fellowship, Huazhong University of Science and Technology, October 2009
- ◇ Outstanding Student Award, Zhongyuan University of Technology, September 2006

## Media Coverage

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- ◇ JSU News, “*Business Students Place Sixth in Global Competition*”, <https://www.jsu.edu/news/articles/2023/06/business-students-place-sixth-in-global-competition--.html>

## Service

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### Reviewer

- ◇ European Journal of Operational Research
- ◇ INFORMS Journal on Applied Analytics
- ◇ Networks
- ◇ Computational Optimization and Applications
- ◇ Archives of Computational Methods in Engineering
- ◇ Proceedings of 2021 Decision Sciences Institute Annual Conference
- ◇ Proceedings of 2018 IX International Conference Optimization and Applications
- ◇ Proceedings of the ASME 2016 International Mechanical Engineering Congress and Exposition

### Session Chair

- ◇ Network Models in Optimization and Their Applications, INFORMS 2023, 2022
- ◇ Integer Programming and Combinatorial Optimization, INFORMS 2021, 2020
- ◇ Global Optimization Algorithms–Theory and Application, INFORMS 2019

### Committee

- ◇ Member, Statistics Instructor Hiring Committee, Jacksonville State University, October 2023–Present
- ◇ Chair, Placement & Retention Rates Committee, College of Business & Industry, Jacksonville State University, April 2023–Present
- ◇ Member, Undergraduate Curriculum & AOL Committee, College of Business & Industry, Jacksonville State University, Jan 2022–Present
- ◇ Member, Scholarship Committee, College of Business & Industry, Jacksonville State University, February 2023–Present

### Other Service Activities

- ◇ *Sergeant at Arms*, Stillwater Toastmasters Club, July 2018–June 2019
- ◇ *President*, Stillwater Toastmasters Club, September 2017–June 2018
- ◇ *Vice President Education*, Stillwater Toastmasters Club, July 2017–June 2018
- ◇ *Vice Graduate President*, INFORMS at Oklahoma State University Chapter, January –August 2017
- ◇ *Secretary*, Stillwater Toastmasters Club, July 2016–June 2017
- ◇ *Treasurer*, Alpha Pi Mu at Oklahoma State University Chapter, August 2016–January 2017

## Selected Professional Activities

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- ◇ Speaker, gave a talk “Balancing the Scale and the Accuracy of a Risk Index: An Enhanced Automatic Risk Score Generator for Health Condition Prediction” at *JSU Faculty Research Symposium 2023*, Jacksonville State University, November 2, 2023
- ◇ Participant, *Culverhouse Business Analytics Symposium*, University of Alabama, September 15, 2023 and October 14, 2022
- ◇ Speaker, gave a talk “On Detecting Fault-Tolerant Low-Diameter Clusters in Graphs” at *JSU Faculty Research Symposium 2022*, Jacksonville State University, November 3, 2022
- ◇ Participant, *Diversity Advocate Training*, Bucknell University, February 19, 2020
- ◇ Participant, *New Faculty Pedagogy Series*, Teaching & Learning Center, Bucknell University, Fall 2019 and Spring 2020
- ◇ Speaker, conducted a workshop “*Introduction to Python*”, sponsored by INFORMS at Oklahoma State University Student Chapter, November 17, 2017
- ◇ Speaker, Conducted a workshop “*Programming with Python: Hands-On Introduction*”, sponsored by INFORMS at Oklahoma State University Student Chapter, April 7, 2017

## Professional Memberships

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- ◇ Institute for Operations Research and the Management Sciences (INFORMS)
- ◇ Production and Operations Management Society (POMS)
- ◇ Decision Sciences Institute (DSI)
- ◇ Institute of Industrial and Systems Engineers (IISE) (September 2015–January 2021)

## Computer Skills

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| ◇ <b>Programming:</b> Python, R, SQL, C++ | ◇ <b>Others:</b> Gurobi, FICO Xpress, MATLAB, High Performance Computing on Linux |
| ◇ <b>Analytics:</b> Power BI              |   |