

# Yajun Lu

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Department of Management & Marketing  
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## Appointments

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**Department of Management & Marketing**  
Assistant Professor

**Jacksonville State University**  
June 2021–Present

**Department of Analytics & Operations Management**  
Visiting Assistant Professor

**Bucknell University**  
August 2019–May 2021

**Department of Industrial Engineering**  
Industrial Engineer

**Huawei Technologies Co., Ltd.**  
March 2011–July 2014

Job duty: Data Analytics, Manufacturing, Supply Chain Management

## Education

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**Ph.D.**, Industrial Engineering & Management 2014–2019

**Oklahoma State University**, Stillwater, Oklahoma

Dissertation title: Finding second-order clubs (Advisor: Dr. Baski Balasundaram)

**M.S.**, Industrial Engineering 2008–2011

**Huazhong University of Science and Technology**, Wuhan, China

**B.S.**, Industrial Engineering 2004–2008

**Zhongyuan University of Technology**, Zhengzhou, China

## Research Interests

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- ◇ Network Optimization, Graph-based Data Mining, Data Analytics of Complex Networks with applications in Healthcare and Social Network Analysis, Manufacturing

## Publications

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### Refereed Journal Papers

1. **Yajun Lu**, Hosseinali Salemi, Balabhaskar Balasundaram, and Austin Buchanan. On finding fault-tolerant low-diameter clusters in graphs, *INFORMS Journal on Computing*, July 2022, Accepted (pdf link)
2. **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
3. Chun-Miin (Jimmy) Chen and **Yajun Lu**. Shipment Sizing for Autonomous Trucks of Road Freight. *International Journal of Logistics Management*, 32(2):413–433, 2021
4. **Yajun Lu**, Esmaeel 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

5. **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
6. 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
7. **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
8. 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

9. **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
10. **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
11. **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

12. **Yajun Lu**, Zhuqi Miao, Parisa Sahraeian, and Balabhaskar Balasundaram. On Atomic Cliques in Temporal Graphs, August 2022, Accepted ([pdf link](#))

### Selected Conference Presentations

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1. **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, Virtual Conference. (November 19, 2021).
2. **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
3. **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
4. **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
5. **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
6. **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

7. **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
8. **Yajun Lu**, Hosseinali Salemi, Balabhaskar Balasundaram, and Austin Buchanan. Fault-tolerant s-clubs. 2019 INFORMS Annual Meeting, October 20–23, 2019, Seattle, Washington
9. **Yajun Lu**, Hosseinali Salemi, Balabhaskar Balasundaram, Austin Buchanan, and Sunderesh Heragu. Formulation and Solution of a Master Production Planning Problem. IISE Annual Conference and Expo 2019, May 18–21, 2019, Orlando, Florida (Presented by coauthor Sunderesh Heragu)
10. **Yajun Lu**, Hosseinali Salemi, Balabhaskar Balasundaram, and Austin Buchanan. Robust low-diameter subgraphs. 2019 INFORMS ALIO International Conference, June 9–12, 2019, Cancún, Mexico (Presented by coauthor Balabhaskar Balasundaram)
11. **Yajun Lu** and Balabhaskar Balasundaram. On detecting second-order 2-clubs in graphs. 2018 INFORMS Annual Meeting, November 4-7, 2018, Phoenix, Arizona
12. **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
13. **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

### Jacksonville State University

BA 500: Supply Chain Analytics (Graduate level, 5/5)	Spring 2022
CBA 390: Operations Management (Two sections, 4.69/5 and 4.74/5)	Spring 2022
BA 545: Quantitative Methods for Business Decision Making (Graduate level, 4.9/5)	Fall 2021
CBA 390: Operations Management (4.71/5)	Fall 2021
BA 545: Quantitative Methods for Business Decision Making (Graduate level, 4.53/5)	Summer 2021
CBA 390: Operations Management (4.5/5)	Summer 2021

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### Bucknell University

ANOP 102: Spreadsheet Modeling & Data Analysis (Two sections) – Hybrid teaching	Spring 2021
ANOP 202: Operations Management – Hybrid teaching	Spring 2021
ANOP 102: Spreadsheet Modeling & Data Analysis (Two sections) – Hybrid teaching	Fall 2020
ANOP 202: Operations Management – Hybrid teaching	Fall 2020
MGMT 102: Quantitative Reasoning for Managers (Two sections)	Spring 2020
MGMT 202: Operations Management	Spring 2020
MGMT 102: Quantitative Reasoning for Managers (Two sections)	Fall 2019
MGMT 202: Operations Management	Fall 2019

### Oklahoma State University

Instructor (full responsibility), IEM 4013: Operations Research (4.27/5)	Spring 2019
Teaching Assistant, IEM 5013: Introduction to Optimization	Fall 2017
Teaching Assistant, IEM 5003: Probability and Statistics For Engineers	Fall 2016

## Research Experience

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- ◇ *Research Assistant, Oklahoma State University*
  - Investigate Optimization-based Aggregate Master Planning Tools for Bay Valley Foods LLC using *Python* and *Gurobi*, January 2018–July 2019
  - Developed the cyber-physical framework for advanced manufacturing linking the Next Generation Internet called GENI, August 2014–June 2016
- ◇ *Research Assistant, Huazhong University of Science and Technology*
  - Conducted the research on Steel Plate Nesting and Cutting Optimization, and Production Control System, September 2008–December 2009
  - Implemented an advanced algorithm based on graph theory for common-line cutting steel plate using C++, January 2010–March 2011

## Selected Honors & Awards

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- ◇ Faculty Research 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

## Service

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### Reviewer

- ◇ European Journal of Operational Research
- ◇ Networks
- ◇ INFORMS Journal on Applied Analytics
- ◇ 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 2022
- ◇ Integer Programming and Combinatorial Optimization, INFORMS 2021
- ◇ Integer Programming and Combinatorial Optimization, INFORMS 2020
- ◇ Global Optimization Algorithms–Theory and Application, INFORMS 2019

## Committee Member

- ◇ Undergraduate Curriculum & AOL Committee, Jacksonville State University, Jan 2022–Present

## Other Service Activities

- ◇ *Sergeant at Arms*, Stillwater Toastmasters Club, July 1, 2018–June 2019
- ◇ *President*, Stillwater Toastmasters Club, September 20, 2017–June 30, 2018
- ◇ *Vice President Education*, Stillwater Toastmasters Club, July 1, 2017–June 30, 2018
- ◇ *Vice Graduate President*, INFORMS at Oklahoma State University Chapter, January 15–August 17, 2017
- ◇ *Secretary*, Stillwater Toastmasters Club, July 1, 2016–June 30, 2017
- ◇ *Treasurer*, Alpha Pi Mu at Oklahoma State University Chapter, August 18, 2016–January 16, 2017

## Selected Professional Activities

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- ◇ Participant, *Faculty Homecoming Workshop*, JSU Faculty Commons, Jacksonville State University, August 2, 2021
- ◇ Participant, *Diversity Advocate Training*, Bucknell University, February 19, 2020
- ◇ Participant, *New Faculty Pedagogy Series*, Teaching & Learning Center, Bucknell University, Fall 2019 and Spring 2020
- ◇ Participant, *Special Topics in Grantsmanship*, Oklahoma State University, Spring 2019
- ◇ Participant, *College's 3MT competition*, organized by College of Engineering, Architecture & Technology, Oklahoma State University, October 15, 2018
- ◇ Participant, *Scholarship of Teaching and Learning* for Graduate Teaching Assistants, August 30–October 13, 2018
- ◇ Speaker, conducted a workshop “*Introduction to Python*”, sponsored by INFORMS at Oklahoma State University Student Chapter, November 17, 2017
- ◇ Participant, *INFORMS Annual Meeting*, Houston, Texas October 22–25, 2017
- ◇ Speaker, Conducted a workshop “*Programming with Python: Hands-On Introduction*”, sponsored by INFORMS at Oklahoma State University Student Chapter, April 7, 2017
- ◇ Participant, *College's 3MT competition*, organized by College of Engineering, Architecture & Technology, Oklahoma State University, February 18, 2016

## Professional Memberships

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- ◇ Institute for Operations Research and the Management Sciences (INFORMS) (June 2016–Present)
- ◇ Decision Sciences Institute (DSI) (September 2019–Present)
- ◇ Institute of Industrial and Systems Engineers (IISE) (September 2015–January 2021)
- ◇ Alpha Pi Mu (August 2016–Present)
- ◇ Toastmaster International (April 2016–June 2019)

## Computer Skills

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- ◇ **Programming:** C++, Python
- ◇ **Optimization:** Gurobi, FICO Xpress, MATLAB
- ◇ **Data Analytics:** R, SAS, SQL