Jiayu Liu

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EDUCATION

Purdue University   **West Lafayette, IN, USA**

Ph.D. in Technology, Advisor: Dr. Yi Gao   *2023-2027 (Expected)*

M.S. in Applied Statistics   *2025-2026 (Expected)*

M.S. in Aviation and Aerospace Management   *2021-2023*

Graduate Certificate in Geospatial Information Science (GIS)   *2024*

Graduate Certificate in Applied Statistics   *2024*

Beijing Jiaotong University   **Beijing, China**

B.E. in Traffic and Transportation (Civil Aviation Transportation)   *2017-2021*

SKILLS

- ✧ Statistical Programming/Markup Languages: R, Python, SAS, SPSS, LATEX
- ✧ Languages: Mandarin (Native), English
- ✧ Applications: Microsoft Office, Tableau, ArcGIS Pro, AutoCAD, VOSviewer, Adobe Creative Suite, Premiere Pro
- ✧ Music: Violin Performing and Teaching, Piano, Orchestra Performing

CERCIFICATION & LICENSE

- ✧ SAS Certified Specialist: Base Programming Using SAS 9.4

PEER-REVIEWED PUBLICATIONS

- ✧ **Liu, J.**, Wang, S., Dou, Z., Oluwumi, T. O., & Gao, Y. (2025). Fostering active learning through AI-integrated platforms: Student perceptions from a large enrollment professional education course. Collegiate Aviation Review International, 43(2), 69-99. https://ojs.library.okstate.edu/osu/index.php/CARI/article/view/10322/9131

- ✧ **Liu, J.**, Beck, C. S., & Gao, Y. (2024). Can you judge a book by its cover? An analysis of travelers' perceptions of airline logos and airlines' business models. Journal of Air Transport Management, 115, 102543. https://doi.org/10.1016/j.jairtraman.2024.102543

- ✧ Gao, Y & **Liu, J.** (2023). State of Airport Loyalty Programs (ACRP Synthesis 131). Washington, DC: The National Academies Press. https://doi.org/10.17226/27279.

- ✧ Wang, S., Dou, Z., **Liu, J.**, & Gao, Y. (2025). The fate of Akron-Canton Regional Airport following the dehubbing of Cleveland Hopkins International Airport and exodus of Southwest Airlines. Case Studies on Transport Policy, 101497. https://doi.org/10.1016/j.cstp.2025.101497

WORKING PAPERS

- ✧ **Liu, J.,** Kong, N., & Gao, Y. (Under Review). Are Airport Expansion Catalyst of Urban Development? Unveiling the Influence of New Terminals on Surrounding Land Use

- ✧ Gao, Y & **Liu, J.** (Under Review). Frequent Flyer Programs in Academic Research: A Literature Review of Research Progress Since 2000

- ✧ Dou, Z., Wang, S., **Liu, J.,** & Gao, Y. Predicting Airport Passenger Arrivals from Flight Schedules: An Explainable Machine Learning Method

- ✧ Wang, S., **Liu, J.,** Dou, Z., & Gao, Y. Do Airlines Have Home Court Advantage? Exploring the Relationship Between Airline Dominance and Taxi-out Time

CONFERENCE ACTIVITIES

✧ **Liu, J.,** Kong, N., & Gao, Y. (2024, October). *The role of airport expansions in urban growth: The impact of new terminals on local land use* [Poster & Presentation]. Applied Geography Conference, San Marcos, TX.

✧ Gao. Y. & **Liu, J.** (2024). Navigating the Skies of Airline Customer Loyalty: A Comprehensive Review of Airline Frequent Flyer Program Studies. Paper presented on the 27th Air Transport Research Society Conference. Lisbon, Portugal.

✧ Wang, S., Dou, Z., **Liu, J.**, & Gao, Y. (2024, July). The Ripple Effect of Airport Dehubbing: A case study of Cleveland Hopkins International Airport and Akron Canton Airport [Presentation]. Presented at the 27th Air Transport Research Society Conference 2024, Lisbon, Portugal.

✧ Wang, S., Dou, Z., **Liu, J.**, & Gao, Y. (2023). Spatial Determinants Behind the Seasonal Variations of Commercial Flights Across the United States [Poster & Presentation]. 2023 GIS Day Conference, West Lafayette, IN.

✧ **Liu, J.**, Beck, C., & Gao, Y. (2022). Passengers' Perceptions of Airlines' Logo Design and Their Business Models. Paper presented on the 25th Air Transport Research Society Conference (Hybrid). Antwerp, Belgium.

✧ Gao. Y., **Liu, J.**, & Wang, S. (2022). Visualize Your Research Work. Workshop presented on the 2022 UAA Annual Collegiate Aviation Conference & Expo. Colorado Springs, CO.

✧ Wang, S., **Liu, J.**, Xie, H., & Gao, Y. (2022). What is Aviation Research Talking About? A Bibliographic Analysis of Three Aviation Journals during 2011-2021 [Poster & Presentation]. Purdue University School of Aviation and Transportation Technology Poster Symposium. West Lafayette, IN.

TEACHING EXPERIENCE

✧ **AT 102 - Aviation Business**, Purdue University   *Fall 2024*
   Role: Course Instructor
   Tasks: In-person lecturing; Grading.

✧ **AT 338 - Airline Management**, Purdue University   *Spring 2022*

✧ **AT 546 - Aviation Financial Instruments and Operations,** Purdue University   *Fall 2021*
   Role: Graduate Teaching Assistant
   Instructor: Dr. Yi Gao
   Tasks: Managed and recorded online airline simulation platforms backstage data; Grading.

RESEARCH EXPERIENCE & PROJECT

✧ **The Data Mine, Purdue University**   *Graduate Data Science Researcher   2025*
   Corporate Partner: *Johnson & Johnson*
   Collaborated on Foundational Models project for early-phase clinical trials, applying Generative AI (LLMs, GANs, VAEs, Diffusion Models) and predictive modeling (XGBoost).
   Applied tools including Python, R, and SQL in large-scale biomedical data analysis.

✧ **[ACRP Synthesis 131] State of Airport Loyalty Programs**   *Graduate Research Assistant   2022*

✧ **Sponsor**: Airport Cooperative Research Program (ACRP), Transportation Research Board (TRB), National Academies of Sciences, Engineering, and Medicine (NASEM)
   Project Scope: Investigating customer loyalty programs in different domains, especially major airports in the US. Providing a comprehensive overview of the current status of airport loyalty programs.

✧ **[ACRP 01-41] Airport Blockchain Implementation Guidebook**   *Graduate Research Assistant   2021*

✧ **Sponsor**: Airport Cooperative Research Program (ACRP), Transportation Research Board (TRB), National Academies of Sciences, Engineering, and Medicine (NASEM)
   Project Scope: Collecting and summarizing blockchain and associated technologies implementation in the

aviation industry to provide business solutions and operational efficiencies for airport decision-makers and stakeholders.

ACADEMIA SERVICE & ACTIVITIES

- ◇ Reviewer
  – Journal of Air Transport Management (JATM)
  – Collegiate Aviation Review-International (CAR-i)
- ◇ Member
  – American Association of Airport Executives (AAAE)
  – American Institute of Aeronautics and Astronautics (AIAA)
  – University Aviation Association (UAA)
  – Air Transport Research Society (ATRS)

INTERNSHIP

- ◇ **China Mining Logistics Holdings Co., Ltd**   *International Logistics Analyst*   *2020*
  – Assisted with freight forwarding, customs declaration and inspection, filling out, photocopying and binding various documents
- ◇ **Citic-Prudential Fund Management Co., Ltd.**   *Financial Data Analyst*   *2019*
  – Organizing the records of the brokerage roadshow/fund research
  – Collecting and analyzing information on the macroeconomy, capital market, and public offering fund
  – Cleaning up and processing data

HONORS & AWARDS

- ◇ Graduate Ross Fellowship, Purdue University   2023-2027
- ◇ Industry Advisory Board Research Poster Symposium   *2022*
- ◇ First Prize for 16th National Competition of Transport Science and Technology for University Student   *2021*
- ◇ Purdue Bands & Orchestras Scholarship   *2021*
- ◇ China Undergraduate Mathematical Contest in Modeling   *2020*
- ◇ Top Art Scholarship of Beijing Jiaotong University   *2018 - 2020*

COMMUNITY SERVICES & ACTIVITIES

- ◇ **Aviation Graduate Council (AGC), Purdue University**   *Member*   *Fall 2022*
  – Present for research roundtable
- ◇ **Concert Orchestra, Purdue University**   *Concertmaster*   *Fall 2022*
  – Organize orchestra rehearsals and concerts
  – First violin sectional rehearsal leader
  – Perform violin solo part
- ◇ **Festival Chorus and Orchestra, Purdue & Ball State University**   *Concertmaster*   *Summer 2022*
  – Organize rehearsals during summer tour to Europe
  – Perform violin solo part
- ◇ **Philharmonic Orchestra, Purdue University**   *Associate Concertmaster*   *2021*
  – Perform part of the violin solo works
- ◇ **Suzuki Association of the Americas**   *Registered Suzuki Violin Teacher*   *2022*
  – Core unites training

VOLUNTARY

- ◇ **Chinese International Baptist Ministry**   *West Lafayette, IN*   *2022*
  – Church Accompanist

✧ **Covid-19 Prevention and Control** *Beijing, China* *2020*
　– Community volunteer
✧ **Xizhongjie Elementary School** *Beijing, China* *2019*
　– Voluntary violin teacher
✧ **China-Japan Friendship Hospital** *Beijing, China* *2018*
　– Guide Volunteer