Nan Yang

Email: nanyangemail@gmail.com
Phone: +49-15770049837
Address: 74072 Heilbronn, Germany
LinkedIn: www.linkedin.com/in/nan-yang-12541b176/

Technical University of Munich (TUM)
School of Management, Heilbronn
PhD Candidate in Operations Research

EDUCATION

Technical University of Munich

PhD Candidate in Operations Research, Jan. 2022 – Present
Supervisor: Prof. Dr. Jingui Xie
Dissertation: A Robust and Flexible Framework for Healthcare Management.
(Expected completion: 2027)

Technical University of Munich

M.Sc. in Mathematics (GPA: 2.5/5.0 with Merit), Oct. 2018 – Sep. 2021

University of Science and Technology of China

B.Sc. in Statistics (GPA: 81/100 with Merit), Sep. 2014 – Jun. 2018

WORK EXPERIENCE

Technical University of Munich, Center for Digital Transformation, Heilbronn

- Scientific Employee in Operations Research, Jan. 2022 – Present
  - Research assistant: Developed theoretical frameworks integrating predictive and prescriptive analytics, including robust satisficing and queueing networks, with applications to healthcare service systems.
  - Teaching assistant: Supervised 5 exercise courses, 4 seminar courses, 15 bachelor's and master's theses, and 10 student projects.

BMW Group, Department of Technology Development, Munich

- Master Thesis Student, Jan. – Sep. 2021
  - Developed mathematical algorithms to combine discretization techniques, unsupervised learning, data augmentation and Bayesian networks.
  - Jointly developed a computer vision tool for the identification of important product parameters in the production of lithium-ion batteries.
- Intern in Data Mining, Jan. – Jul. 2020
  - Examined the data in the production of lithium-ion batteries from a proprietary data lake to discover deeper insights, make predictions and generate recommendations.
  - Developed a KPI system with R (R Shiny) that supports decision-making activities on the operational level of the production of lithium-ion batteries based on advanced statistical and machine learning methods.

SKILLS

- Languages: Chinese - Native, English - C2, German – B1
- Programming: Python, R, SAS, MATLAB, C, SQL, Mathematica
- Optimization & Analytics: Robust optimization, queueing models, stochastic programming
- Machine Learning & AI: Statistical learning, uncertainty quantification, generative AI
- Project & Leadership: Project management, academic supervision, data storytelling
- Interests: Outdoor sports (skiing, diving, skydiving, kitesurfing), Travel, Photography

PUBLICATIONS

- Chen, Y., Xie, J., Yang, N., Zhang, G., & Zhu, T. **Impact of server flexibility on pooling configuration in stochastic service systems**. *Production and Operations Management*, forthcoming, 2026. https://doi.org/10.1177/10591478261417819
- Yang, N., Kornas T., & Daub R. **A KPI System for Small Sample Sizes Based on the Bayesian Estimation of Cpk in the Production of Lithium-Ion Batteries**. Procedia CIRP, 2021, volume 99, p. 526-530, ISSN 2212-8271, https://doi.org/10.1016/j.procir.2021.03.111

WORKING PAPERS

- Yang, N., Xie, J., & Zhang, G. **Robust priority pricing with ambiguous valuation–delay sensitivity heterogeneity.**
- Yang, N., & Xie, J. **Data-Driven Robust Scheduling of Elective Patients**. Presented at the INFORMS Healthcare Conference, Toronto, Canada, Jul. 2023.

RESEARCH PROJECTS

- German-French Academy for the Industry of the Future, Dec. 2022 – Dec. 2023
  - Xie, J., Xie, X., Yang, N., & Garaix, T. Data-Driven Dynamic Resource Management for Random Time-Varying Demands in the Context of Covid-19 and future crises.

SUPERVISED PROJECTS

- TUM Data Innovation Lab & Lidl Analytics
  - Practical Machine Learning Solutions for Uncertainty Quantification in Regression.
- Bosch Home Comfort Group
  - Data-driven Price Optimization for Sales Departments.