Xinhao Cui

Tel: (+86) 18511782105; E-mail: cuixinhao@buaa.edu.cn
Address: Weimin Building, No.37 Xue Yuan Road, Beijing, China

EDUCATION

School of Reliability and Systems Engineering, Beihang University Beijing, China

- *Ph.D. candidate in Safety Science and Engineering, Advisor*: *Prof. Yiyong Xiao* Sep. 2024-Present
  Research interests: Mixed-Integer Linear Programming, Deep Reinforcement Learning, Uncertainty optimization
  Thesis title: Proactive Resilience Modeling and Optimization of Cross-domain Heterogeneous Hypernetworks
- *M.S. in Electronic Information, Advisor*: *Prof. Yiyong Xiao* Sep. 2022-Jun. 2024
  GPA: 3.91/4.0 (Rank: 1/73); Research interests: Reliability-based optimization, Affordability analysis
- *B.S. in Safety Engineering* Sep. 2018-Jun. 2022
  GPA: 3.47/4.0 (Rank: 12/36); Main courses: Probability statistics, Risk Assessment, System Safety Engineering

PUBLICATION

- **Cui, X.**, ..., & Xiao, Y.*, 2026. Timeliness-driven routing and scheduling for infrastructure rush repairs with cascading time uncertainties. *Omega*, https://doi.org/10.1016/j.omega.2026.103659. **(Q1, IF=6.9)**
- **Cui, X.**, ..., & Xiao, Y.*, 2026. Resilience-Oriented Maintenance Scheduling and Routing Optimization for IoT-Enabled Offshore Wind Farms with Forecast-Informed Accessibility Windows and Cumulative Task-Time Uncertainty. *Applied Energy*, https://doi.org/10.1016/j.apenergy.2026.128355. **(Q1, IF=12.2)**
- **Cui, X.**, ..., & Xiao, Y., 2026. Joint optimization of support center location and USV-UAV collaborative routing for maritime network under uncertainty: A bilevel programming model. *Computers & Industrial Engineering*. https://doi.org/10.1016/j.cie.2026.111845 **(Q1, IF=7.3)**
- **Cui, X.**, ..., & Xiao, Y.*, 2025. Resilience-based restoration sequence optimization of disrupted transportation networks: A novel matheuristic approach. *Transportation Research Part D: Transport and Environment*. https://doi.org/10.1016/j.trd.2025.104834 **(Q1, IF=8.7)**
- **Cui, X.**, ..., & Xiao, Y.*, 2025. Timeliness-oriented rush repair optimization of workforce scheduling and routing for logically complex systems under uncertainty. *Reliability Engineering & System Safety*. https://doi.org/10.1016/j.ress.2024.110574 **(Q1, IF=13.7)**
- Zhang, C., ..., **Cui, X.***, & Xiao, Y*, 2026. IoT-enabled human-cyber-physical interaction and decision system for dynamic social network intervention: an application to drug transmission. *Internet of Things*. https://doi.org/10.1016/j.iot.2026.101941 **(Corresponding author, Q1, IF=7.1)**

ONGOING WORK

- Integrating Deep Reinforcement Learning and Mixed-Integer Linear Programming for Post-Disaster Network Repair
- Resilient Resource Allocation and Vehicle Routing for Emergency Logistics under Flow-Induced Link Disruptions

CONFERENCE TALK

- A Joint Order Cost Optimization Model for Multi-Item Spare Parts Manufacturing Systems Considering the Requirement of Support Probability, *International Conference on Automation and Computing* 2023, Birmingham.
- Optimization of non-ergodic maintenance resource allocation driven by system resilience, *International Conference on Reliability, Maintainability and Safety* 2024, Guilin.

GRANTS & AWARDS

International joint doctoral education fund of Beihang University Nov. 2026 - Nov. 2027
Academic Excellence Foundation of Beihang University for PhD Students, CNY 40,000 July. 2026 - July. 2027
First Prize Scholarship (top 20%) Sept. 2024, Sept. 2025

ACADEMIC SERVICE

- Session Chair of *International Conference on Reliability, Maintainability and Safety* 2026, Guangzhou.
- Reviewer for 12 top-tier journals, such as HSSC, IJPE, IJDRR, IJEPES, CAIE, TRD, RESS, and JMP.

ADDITIONAL INFORMATION

Languages: Mandarin (Native), English (Fluent-IELTS: 6.5)
Technical Skills: Python, AMPL, CPLEX & Gurobi & SCIP, Microsoft Office, Origin, and CAD