

JUNQI LU

[GitHub](#) | [Google Scholar](#) | [Personal Blog](#)

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Beijing, China

EDUCATION

Beijing Institute of Technology , Beijing, China	2024.9 - 2026.6 (expected)
Second Bachelor's Degree in Computer Science Rank 1/10	
<ul style="list-style-type: none">GPA: 3.2/4.0. Completed 44.5 credits of core CS coursework in the first year alone (2024-2025), demonstrating exceptional capability in handling high-intensity academic loads.Selected High Scores: Linux System Programming (94), Machine Learning Fundamentals (93), Computer Architecture (89), Object-Oriented Programming (89), Computer Networks (86).Ranked 1st in the final cohort (initial cohort of 27 screened down to 10 with a 63% attrition rate).	
Beijing Institute of Technology , Beijing, China	2020.10 - 2024.6

Bachelor of Mathematics and Applied Mathematics

- Gained a solid theoretical background in mathematics, which underpins my quantitative and analytical skills.

PUBLICATIONS

- [1] **Junqi Lu**, Bosen Liu, Cuicui Pei, Qingan Qiu*, and Li Yang*. Learning to optimize termination decisions under hybrid uncertainty of system lifetime and task duration. *Computers & Industrial Engineering*, 2025. [DOI: 10.1016/j.cie.2025.111208](#) **(Published, IF=6.5, JCR Q1)**
- [2] **Junqi Lu**, Qingan Qiu*. Deep Reinforcement Learning for Condition-based Termination Decisions with Degradation Modeling. **(Working Paper)**
- [3] **Junqi Lu**, Xin Li*. A Multi-step Bisimulation Metric Integrating λ -returns and SimSR. **(Working Paper)**

RESEARCH EXPERIENCE

Deep Reinforcement Learning & State Representation	2025.7 - Present
<i>Research Assistant</i> Advisor: Prof. Xin Li, Deep Reinforcement Learning Lab	
<ul style="list-style-type: none">Investigating Bisimulation Metrics for state representation learning to address credit assignment and double sampling issues in Bellman-based algorithms.Completed theoretical derivations for a multi-step bisimulation distance integrating λ-returns and SimSR.Conducting pixel-based experiments on the DeepMind Control Suite. Preliminary results show significant performance gains over baselines in capturing long-term behavioral similarity.Targeting submission to ICML 2026 (International Conference on Machine Learning).	

Reliability Engineering Analysis	2023.6 - present
<i>Research Assistant</i> Advisor: Prof. Qingan Qiu, Beijing Institute of Technology	
<ul style="list-style-type: none">Proposed a Markov Decision Process (MDP) framework to solve Mission Abort problems for safety-critical systems, balancing task success probability and system safety under hybrid uncertainty.Published a first-author paper in C&IE (JCR Q1) detailing the discrete optimization method.Ongoing Extension: Addressing the curse of dimensionality inherent in discrete state spaces by incorporating Reinforcement Learning. Currently developing a continuous control framework to optimize maintenance strategies in high-dimensional complex systems. Targeting submission to RESS 2026.	

HONORS & AWARDS

Finalist (Top 2%) , Interdisciplinary Contest in Modeling (ICM) <i>Project: Modeling nitrogen cycling in forest-to-farmland conversion (2025 MCM/ICM Problem E)</i>	Feb 2025
<ul style="list-style-type: none">Ranked in the Top 2% (Finalist) out of 27,456 teams globally.Open Source & Educational Impact: Developed a comprehensive repository featuring a step-by-step tutorial on differential equation modeling (Euler method vs. ODE solvers).The full solution repository, including fully reproducible code (Jupyter Notebooks) and LaTeX source files, has garnered 40+ stars on GitHub and serves as a learning resource for modeling beginners.	
Academic Excellence Scholarship , Beijing Institute of Technology	Oct 2025
<ul style="list-style-type: none">Awarded to the top-ranking student (Rank 1/10) in the Computer Science Dual Degree program for exceptional academic performance.	
University "Excellent Thesis" Prize , Beijing Institute of Technology	Jun 2024
<ul style="list-style-type: none">Awarded for the undergraduate thesis on safety-critical system termination.Research Translation: The thesis was further developed and successfully published as a JCR Q1 journal paper in <i>Computers & Industrial Engineering</i>.	
Meritorious Winner (Top 9%) , Mathematical Contest in Modeling (MCM) <i>Project: Plant community viability prediction under drought conditions (2023 MCM/ICM Problem A)</i>	Feb 2023
<ul style="list-style-type: none">Constructed a <i>Soil-Water Model</i> and an <i>Improved Lotka-Volterra Model</i> to simulate ecosystem dynamics.Huixian Special Scholarship: Awarded a special institutional grant (Huixian Talent Fund) in recognition of the team's outstanding contribution to the university's competition achievements.	

RELEVANT COURSEWORK

- Computer Science:** Data Structures and Algorithms, Operating Systems, Computer Architecture, Computer Networks, Object-Oriented Programming, Database Principles.
- Mathematics:** Real Analysis, Functional Analysis, Abstract Algebra, Probability Theory, Mathematical Statistics, Partial Differential Equations (PDE), General Topology, Numerical Analysis.
- Specialized Topics:** Reinforcement Learning (Graduate-Level), Machine Learning Fundamentals.

SKILLS

Technical Skills

- Programming:** Extensive experience in **C++**, including Object-Oriented Programming (OOP) and system development on Linux (e.g., a [real-time multiplayer chatroom](#)). Skilled in **Python** with expertise in scientific computing (*NumPy*, *Matplotlib*) and machine learning (*PyTorch*).
- Tools & Software:** Proficient with **Git** for version control, managing a research portfolio and two personal blogs: an [English blog](#) for documenting recent academic work, and a [Chinese blog](#) with **over 20 articles** on Data Structures and Algorithms, accumulating **20K+ views**.
- Academic:** Highly experienced with **LaTeX** for all academic writing. Familiar with **Manim** for visualizations and **Lean 4** for formal proof verification.

INTERESTS

- Marathon Running:** Committed long-distance runner with an annual mileage exceeding **1,000 km** for three consecutive years. Half-Marathon Personal Best: **1:41:34**.
- Music:** Lead guitarist and bassist for university rock bands. Passionate about classic rock arrangement and performance; active participant in campus music festivals.