Curriculum Vitae

Kunyuan Li

Personal Information

Name: Kunyuan Li

Current Position: Ph.D. Candidate

Institution: Army Engineering University of PLA

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Education

- **Ph.D. Candidate in Cyberspace Security** 2025 – Present
  Army Engineering University of PLA, Nanjing, China
- **M.S. in Mathematics** 2020 – 2023
  Army Engineering University of PLA, Nanjing, China
- **B.S. in Communication Engineering** 2013 – 2017
  PLA University of Science and Technology, Nanjing, China

Research Interests

- Mathematical Theory and Derivation
- Fractal Geometry
- Fractional Calculus
- Computer Science
- Artificial Intelligence
- Data Processing and Analysis
- Communication Technology

Research Expertise

My research focuses on the intersection of mathematical theory and computational applications, with particular emphasis on fractal geometry, fractional calculus, and their applications in complex systems. I have developed strong expertise in theoretical derivation, numerical analysis, and data-driven modeling approaches. My work spans multiple disciplines including pure mathematics, applied mathematics, computer science, and engineering applications.

Selected Publications

1. Li K Y, Yao K, Zhang K. On the fractional derivative of a type of self-affine curves[J]. Fractals, 2023. (SCI Q1) DOI: 10.1142/S0218348X23500391
2. Yao K, Li K Y, Wang Z K, et al. The Hausdorff dimension of Hadamard fractional integral of a fractal function[J]. Chaos, Solitons and Fractals, 2023. (SCI Q1, Top Journal) DOI: 10.1016/j.chaos.2023.113516
3. Zhang K, Pan Z S, Hu G Y, Li K Y. Research on node importance in dynamic networks based on spatio-temporal graph convolution[J]. College Mathematics, 2023. (in Chinese)
4. Li K Y, Zhang X W, Yao K, Zhang K, Sun M, He M, Liu K F, Wang Y J. Modeling phase transitions in starling flocks using fractal dimension of self-affine functions[J]. Fractal and Fractional, 2026.(SCI Q1) DOI: 10.3390/fractalfract10010017

Honors and Awards

- **Third Prize**, China Graduate Mathematical Contest in Modeling 2025
- **First Prize**, National English Competition for College Students (NECCS) 2017
- **Second Prize**, Contemporary Undergraduate Mathematical Contest in Modeling (CUMCM) 2016

Research Achievements

- Published 4 peer-reviewed papers, including 3 SCI-indexed articles in Q1 journals
- Contributed to top-tier journals in fractal geometry and nonlinear dynamics
- Developed novel mathematical frameworks for analyzing complex systems
- Applied fractal theory to biological collective behavior modeling

Technical Skills

- **Mathematical Tools:** Advanced calculus, fractional calculus, fractal geometry, differential equations, optimization theory
- **Programming:** Python, MATLAB, C/C++, LaTeX
- **Data Analysis:** Statistical analysis, machine learning, deep learning
- **Software:** Mathematica, Origin, TensorFlow, PyTorch

This CV is submitted in response to the provisional selection for the Research Excellence Award.