# TONG ZHAO

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### **T** EDUCATION

University of Electronic Science and Technology of China (UESTC), Chengdu, China

Yingcai Honors College, Undergraduate student Expected June 2025

Computer Science and Technology (Yingcai Honors Program of UESTC)

GPA: 3.99 /4.00 Average Score: 92.35 /100 Rank: 1 /137 CET6: 567 IELTS: Learning

## RESEARCH EXPERIENCE

Institute of Fundamental and Frontier Science, UESTC

11/2022 - Now

#### **Information Fusion and Intelligent Systems Lab**

Research Assistant(Google Scholar & ORCID), advised by Prof. Yong Deng(Google Scholar).

**Research topic**: Uncertainty Measure

#### • Explore the dimension of the Random Permutation Set

Inspired by the Rényi information dimension, we proposed the information dimension of the permutation mass function in Random permutation Set (RPS), and find the information dimension corresponding to the maximum RPS entropy is 2, which is equivalent to the fractal dimension of Brownian motion and Peano curve.

#### • Explore the linearity in entropy

We conduct an in-depth exploration of the linear relationship between Deng entropy and the scale of the frame of discernment (SFOD), and find that the slope is nothing else but the information fractal dimension of mass function. This work shows that entropy can not only increase but also increase in a linear way.

### **PUBLICATIONS**

- Tong Zhao, Zhen Li, and Yong Deng. "Information fractal dimension of Random Permutation Set." *Chaos, Solitons & Fractals* 174 (2023): 113883. (**Published, JCR 1, IF = 7.8**) Click to view.
- Tong Zhao, Zhen Li, and Yong Deng. "Linearity in Deng entropy." *Chaos, Solitons & Fractals* 178 (2024): 114388. (Published, JCR 1, IF = 7.8) Click to view.

#### MAIN COURSES GRADES

Linear Algebra: 97 Mathematical Analysis: 98 Discrete Mathematics: 95

Computer Networks: 98 Foundation of Programming: 93 Principles of Computer Organiz

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Artificial Intelligence: 98 Signal and System: 96 Principle and Application of Database: 96

## **Q** Honors and Awards

| Scholarship for Outstanding Students in UESTC                                       | 2022, 2023 |
|---|------------|
| First Prize in the Yingcai-Huawei Scholarship                                       | 2023       |
| Technology Innovation Star of the Year in Yingcai Honors College                    | 2023       |
| First Prize for Best Project in the New Engineering Education Curriculum of UESTC   | 2023       |
| Excellent Program, College Student Innovation and Entrepreneurship Program in UESTC | 2023       |
| Gold Award for Engineering Innovation and Design Course Project Exhibition          | 2023       |

## SKILLS

**Programming:** C language, Matlab, Python, Verilog/VHDL, MySQL

Research software: LaTex, PowerPoint, Excel, Word