

Zhen, Guocheng

Phone: +86 13212969197

Mail: guochengzhen@whu.edu.cn



## Education Background

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Wuhan University School of Mathematics and Statistics Mathematics and Applied Mathematics

Bachelor 2018/09-2022/06

Wuhan University School of Mathematics and Statistics Probability Theory and Mathematical Statistics

Master 2022/09-2025/06

Undergraduate GPA: 3.58/4 Postgraduate recommendation ranking: 2/36

Postgraduate GPA: 3.64/4 Postgraduate Scholarship Ranking: 2/23

Interest areas: Probability theory, Functional analysis, Mathematical models

English proficiency: CET4-590, CET6-492

Main undergraduate courses: Linear Algebra I (100), Expansion of Linear Algebra (100), Ordinary Differential Equations (93), Linear Algebra II (90), Topology (93), Algebraic Topology (95), Complex Analysis (92), Number Theory and Cryptography (97), Mathematical Analysis 1 (89), Abstract Algebra (89)

Main postgraduate courses: Functional Analysis (96), Advanced Probability Theory (96), Combinatorial Mathematics (98), Modern Complex Analysis (96), Function Space Theory (88)

## Research and Competition Experience

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Follow the postgraduate supervisor to **complete a project on the spectral measurement of random Helson matrices**

- Under the guidance of the supervisor, apply related content such as circuits and divisor functions in combinatorial mathematics and number theory to complete this task

**2020 China Undergraduate Mathematical Contest in Modeling National First Prize**

- During the competition, a relevant model for question B "Crossing the Desert" was established, and together with teammates, we won the first prize at the national level

**2020 The 10th National Mathematics Top Students United Summer School and Sichuan University Geometry and Topology Summer Class**

- During the Summer School, I follow Professor Wang Jiajun from Peking University and Professor Zhang Bin from Sichuan University to study non Euclidean geometry and simple algebraic geometry

**2021 Mathematical Contest in Modeling Meritorious Winner**

- As the captain of the competition, I led my teammates to win the Meritorious Winner together

**Outstanding Bachelor's Thesis of Wuhan University in 2022**

- Under the guidance of the supervising teacher, I used the content of Riesz Functional Calculus to estimate the inequality of the Hilbert-Schmidt Norm of the positive definite operator, and was awarded the Outstanding Bachelor's Thesis of Wuhan University in 2022

**The 11th Chinese Mathematics Competitions (Mathematics Class A) Provincial Second Prize**

**The 8th Hubei Province Mathematics Competition (Mathematic Class) Provincial Second Prize**

## Student Honors

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- Wuhan University Outstanding Student Honorary Title
- Honorary title of excellent graduate student at Wuhan University
- Wuhan University Excellent Academic Scholarship
- Wuhan University Outstanding Student Scholarship
- Institute level outstanding youth against COVID-19 epidemic in Wuhan University
- Honorary title of "Sunshine Partner exemplary individual" of School of Mathematics and Statistics, Wuhan University
- Outstanding Communist Youth League Member of the School of Mathematics and Statistics, Wuhan University
- Wuhan University School of Mathematics and Statistics is an active member of social activities
- Wuhan University School of Mathematics and Statistics Mathematics Base Class Scholarship

## Volunteer Activities

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- During agansting COVID-19 epidemic, Volunteer service at community entrances and exits, assisting community workers in registering and checking the information and health status of those entering and exiting, with a total duration of 40 hours.
- In response to the call of the Institute, organize offline mathematics Q&A activities to help students from various colleges of Wuhan University answer questions and clarify their mathematical knowledge
- During the 2021 Spring School Sakura Festival, register as a volunteer to provide services for medical staff and tourists

## Skills/Hobbies

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- Computer: Basic skills in using Matlab to solve mathematical model related problems
- I enjoy watching NBA games and doing strength training in the gym
- In my senior year, I served as a class monitor and have experience in uniting classmates and organizing class activities
- In my second year of graduate studies, I served as the president of the Teaching Skills Research Association (Student) at Wuhan University and also served as the head of the academic research department of the college. I have experience and ability in organizing academic activities