Curriculum Vitae

Information

- **Name:** Xingyu Zhong (钟星宇)
- **Email:** sun123zxy@qq.com
- **Homepage:** https://scholar.sun123zxy.top/

Education

2022/09–2026/06 | Beijing Institute of Technology | Bachelor of Mathematics

Grades (by the end of 5th semester)

- **GPA:** 3.9 / 4.0 (93.6)
- **GPA Ranking:** 1 / 27
- **Overall Ranking:** 1 / 27
- Obtain 90+ scores in almost all the core courses in mathematics
- Obtain 80+ scores in all courses

Undergraduate Thesis (WIP)

- **Advisor:** Prof. Xun Xie (谢迅)
- **Studying Area:** algebraic groups, Lie algebras, Young tableaux

Awards

Date	Cycle	Award	Issued by
2023/12	2022–2023	Model Student 优秀学生标兵	Bejing Institute of Technology
2024/12	2023–2024	Outstanding Student 三好学生	Bejing Institute of Technology

Scholarships

Date	Cycle	Scholarship	Issued by
2023/12	2022–2023	National Scholarship 国家奖学金	Ministry of Education, PRC
2025/03	2024–2025	Samsung Scholarship	Samsung Electronics China
2022–2025	1st–5th semester (for 5 times)	First Class Scholarship	Bejing Institute of Technology

Competitions

TODO

Talks

Date	Title	Links
2025/09 (TBD)	**Classification of Quadratic Forms over $\mathbb{Q}$**	

- BIT–UTokyo undergraduate exchange for outstanding students major in mathematics
- Joint work with Shubin Xue. The onsite talk will be given by him.

2025/06/20	**Irreducible Representations of the Symmetric Group**	onsite (en) / latest (zh)

- Selection presentation for BIT–UTokyo undergraduate exchange for outstanding students major in mathematics

2025/04/16	**Classification of Quadratic Forms over $\mathbb{Q}$**	onsite (en) / latest (en)

- 2025 spring *Algebraic Geometry* final presentation
- **Lecturer:** Prof. Yangyu Fan (范洋宇)

2024/04/20	**DFT from the Perspective of Algebra Isomorphism** 代数同构视角下的离散 Fourier 变换	onsite (zh) / latest (zh) news (zh)

- BIT–USTC undergraduate exchange for outstanding students major in mathematics
- **Mentor:** Prof. Peng Cao (曹鹏)

2023/10/18	**The Δ Discriminant of Univariate Polynomials** 一元多项式的 Delta 判别式	onsite (zh) / latest (zh)

- 2023 fall *Advanced Algebra II* course seminar
- **Lecturer:** Prof. Peng Cao (曹鹏)

2023/08/01	**A Convolution-Oriented FFT Tutorial**	onsite (zh) / suppliment (zh) / latest (zh) news (zh)

- BITACMCLUB 2023 summer training

2023/05/18	**Space Filling Curves and Cardinality** 空间填充曲线与集合势理论	onsite (zh) latest (zh)

- 2023 spring *Mathematical Analysis II* course seminar
- Joint work with Chong Ning
- **Lecturer:** Prof. Zhentao Lv (吕珍涛)

2023/04/23	**Wallis Product, Stirling's Approximation and Guassian Distributions** Wallis 公式、Stirling 公式与正态分布	onsite (zh) / latest (zh)

- 2023 spring *Mathematical Analysis II* course seminar
- **Lecturer:** Prof. Zhentao Lv (吕珍涛)

2022/12/13	**Topics on the compactness of $\mathbb{R}$** 有限覆盖定理与实数理论	latest (zh)

- 2022 fall *Mathematical Analysis I* course seminar
- **Lecturer:** Prof. Pengshuai Shi (史鹏帅)

Projects

Date	Project	Links
2022/12 – 2023/12	**On the Uniqueness of the DFT matrix** 将循环卷积转化为乘积的矩阵是否只有傅里叶矩阵?	

- Innovation and Entrepreneurship Training Program for College Students (Level: City & University)
  大学生创新创业训练计划（市、校级）
- It is shown that the DFT matrix, in some degree, is the only linear transformation that carries circulant convolution into pointwise multiplication.
- **Role:** Project Leader
- **Advisor:** Prof. Feng Zhang (张峰), School of Information and Electronics, BIT

Attendances

Date	Event	Links
2025/09/08–2025/09/12	**BIT–UTokyo undergraduate exchange for outstanding students major in mathematics**	

- **Role:** (upcoming) Attendance

2025/07/01–2025/07/20	**BICMR–RUC algebra and formalization summer school** 代数与形式化数学暑期学校	link (zh)

- **Role:** (upcoming) Attendance

2025/02/02–2025/02/15	**2025 FRP Winter Programme in Mordern Advanced Deep Learning**	

- A two-week winter program held in University of Cambridge on modern deep learning theories. Group presentations on hands-on projects were required at the end of the program.
- **Role:** Attendance / Special Award Winner (3 out of 15)

2024/09/30	**ComBIT24–StanleyFest**	link (zh/en)

- A conference on combinatorics at BIT in 2024
- **Role:** Attendance

2024/04/20 – 2024/04/21	**BIT–USTC undergraduate exchange for outstanding students major in mathematics**	news (zh)

- **Role:** Speaker / Attendance

Volunteering

Skills

- **Computer Science**: General programming language familiarity (Python / C++ / Web, etc.). Everyday user of collaborative developing tools (Git). Hands-on experience with building static websites (Quarto / Jekyll) and developing lightweight command-line tools. Github
- **Typesetting** Everyday user of Markdown and LaTeX. Proficiency in publishing systems (Pandoc / Quarto). Experience in developing Quarto Lua filters and extensions.
- **Algorithms**: Once a competitive programmer (OI / ICPC). Familiarity with most of the data structures and algorithms. Codeforces 1951
- **Formalization of Mathematics**: Understand the importance of formalization. Currently learning Lean.
- **Languages**:
  - **Chinese**: Native
  - **English**:
    - **IELTS Academic** 7.5 (8.5 / 8.5 / 6.5 / 6)
    - **CET-6** 581
    - **CET-4** 650
    - **CET-SET4** A