

# Curriculum Vitae

## Information

- **Name:** Xingyu Zhong (钟星宇)
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## 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	Beijing Institute of Technology
2024/12	2023–2024	Outstanding Student 三好学生	Beijing 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	Beijing Institute of Technology

## Competitions

TODO

## Talks

Date	Title	Links
2025/09 (TBD)	<b>Classification of Quadratic Forms over <math>\mathbb{Q}</math></b>	
	<ul style="list-style-type: none"> <li>• BIT–UTokyo undergraduate exchange for outstanding students major in mathematics</li> <li>• Joint work with Shubin Xue. The onsite talk will be given by him.</li> </ul>	
2025/06/20	<b>Irreducible Representations of the Symmetric Group</b>	<a href="#">onsite (en)</a> / <a href="#">latest (zh)</a>
	<ul style="list-style-type: none"> <li>• Selection presentation for BIT–UTokyo undergraduate exchange for outstanding students major in mathematics</li> </ul>	
2025/04/16	<b>Classification of Quadratic Forms over <math>\mathbb{Q}</math></b>	<a href="#">onsite (en)</a> / <a href="#">latest (en)</a>
	<ul style="list-style-type: none"> <li>• 2025 spring <i>Algebraic Geometry</i> final presentation</li> <li>• <b>Lecturer:</b> Prof. Yangyu Fan (范洋宇)</li> </ul>	
2024/04/20	<b>DFT from the Perspective of Algebra Isomorphism</b> 代数同构视角下的离散 Fourier 变换	<a href="#">onsite (zh)</a> / <a href="#">latest (zh)</a> <a href="#">news (zh)</a>
	<ul style="list-style-type: none"> <li>• BIT–USTC undergraduate exchange for outstanding students major in mathematics</li> <li>• <b>Mentor:</b> Prof. Peng Cao (曹鹏)</li> </ul>	
2023/10/18	<b>The <math>\Delta</math> Discriminant of Univariate Polynomials</b> 一元多项式的 Delta 判别式	<a href="#">onsite (zh)</a> / <a href="#">latest (zh)</a>
	<ul style="list-style-type: none"> <li>• 2023 fall <i>Advanced Algebra II</i> course seminar</li> <li>• <b>Lecturer:</b> Prof. Peng Cao (曹鹏)</li> </ul>	
2023/08/01	<b>A Convolution-Oriented FFT Tutorial</b>	<a href="#">onsite (zh)</a> / <a href="#">suppliment (zh)</a> / <a href="#">latest (zh)</a> <a href="#">news (zh)</a>
	<ul style="list-style-type: none"> <li>• BITACMCLUB 2023 summer training</li> </ul>	
2023/05/18	<b>Space Filling Curves and Cardinality</b> 空间填充曲线与集合势理论	<a href="#">onsite (zh)</a> <a href="#">latest (zh)</a>
	<ul style="list-style-type: none"> <li>• 2023 spring <i>Mathematical Analysis II</i> course seminar</li> <li>• Joint work with Chong Ning</li> <li>• <b>Lecturer:</b> Prof. Zhentao Lv (吕珍涛)</li> </ul>	
2023/04/23	<b>Wallis Product, Stirling's Approximation and Gaussian Distributions</b> Wallis 公式、Stirling 公式与正态分布	<a href="#">onsite (zh)</a> / <a href="#">latest (zh)</a>
	<ul style="list-style-type: none"> <li>• 2023 spring <i>Mathematical Analysis II</i> course seminar</li> <li>• <b>Lecturer:</b> Prof. Zhentao Lv (吕珍涛)</li> </ul>	
2022/12/13	<b>Topics on the compactness of <math>\mathbb{R}</math></b> 有限覆盖定理与实数理论	<a href="#">latest (zh)</a>
	<ul style="list-style-type: none"> <li>• 2022 fall <i>Mathematical Analysis I</i> course seminar</li> <li>• <b>Lecturer:</b> Prof. Pengshuai Shi (史鹏帅)</li> </ul>	

## Projects

Date	Project	Links
2022/12 – 2023/12	<b>On the Uniqueness of the DFT matrix</b> 将循环卷积转化为乘积的矩阵是否只有傅里叶矩阵?	
	<ul style="list-style-type: none"> <li>• Innovation and Entrepreneurship Training Program for College Students (Level: City &amp; University) 大学生创新创业训练计划 (市、校级)</li> <li>• It is shown that the DFT matrix, in some degree, is the only linear transformation that carries circulant convolution into pointwise multiplication.</li> <li>• <b>Role:</b> Project Leader</li> <li>• <b>Advisor:</b> Prof. Feng Zhang (张峰), School of Information and Electronics, BIT</li> </ul>	

# Attendances

Date	Event	Links
2025/09/08– 2025/09/12	<b>BIT–UTokyo undergraduate exchange for outstanding students major in mathematics</b> <ul style="list-style-type: none"><li>• <b>Role:</b> (upcoming) Attendance</li></ul>	
2025/07/01– 2025/07/20	<b>BICMR–RUC algebra and formalization summer school</b> 代数与形式化数学暑期学校 <ul style="list-style-type: none"><li>• <b>Role:</b> (upcoming) Attendance</li></ul>	<a href="#">link (zh)</a>
2025/02/02– 2025/02/15	<b>2025 FRP Winter Programme in Mordern Advanced Deep Learning</b> <ul style="list-style-type: none"><li>• 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.</li><li>• <b>Role:</b> Attendance / Special Award Winner (3 out of 15)</li></ul>	
2024/09/30	<b>ComBIT24–StanleyFest</b> <ul style="list-style-type: none"><li>• A conference on combinatorics at BIT in 2024</li><li>• <b>Role:</b> Attendance</li></ul>	<a href="#">link (zh/en)</a>
2024/04/20 – 2024/04/21	<b>BIT–USTC undergraduate exchange for outstanding students major in mathematics</b> <ul style="list-style-type: none"><li>• <b>Role:</b> Speaker / Attendance</li></ul>	<a href="#">news (zh)</a>

# Skills

TODO