

Haoyu Zhu

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Education Background

Sun Yat-sen University

Undergraduate, School of Mathematics (Zhuhai)

Zhuhai

2022 – present

Gap because of Tuberculosis

April 2025 – Sept 2026

Expected date of graduation

June 2027

Courses

Commutative Algebra (Graduate)

Feb 2024 – Jun 2024

- **Textbook:** *Introduction to Commutative Algebras*, M.F. Atiyah, I.G. Macdonald.
- **Instructor:** Prof. Lei Zhang.
- **Grade point:** 77/100.

Representation Theory (Graduate)

Feb 2024 – Jun 2024

- **Textbook:** *Introduction to Lie Algebras and Representation Theory*, J.E. Humphreys.
- **Instructor:** Prof. Min Huang.
- **Grade point:** 96/100.

Real Analysis (Graduate)

Sept 2024 – Jan 2025

- **Textbook:** *Measure Theory and Fine Properties of Functions*, L.C. Evans, R.F. Gariepy.
- **Instructor:** Prof. Xining Li.
- **Grade point:** 85/100.

Research Experience

Sun Yat-sen University

Zhuhai

College Students' Innovative Entrepreneurial Training Plan Program Oct 2023 – Oct 2024

- **Summary:** Read Stembridge's paper on Immanants and worked on problems involving integer partitions and irreducible characters of symmetric groups.
- **Advisor:** Prof. Min Huang.

Peking University

Peking

PKU Algebraic Combinatorics Experience

Jul 2024 – Aug 2024

- **Summary:** On Bott–Samelson rings for Coxeter groups. One can see [arxiv.org/abs/2408.10155] for details.
- **Advisor:** Dr. Tao Gui.
- **Collaborators:** Lin Sun, Shihao Wang.

Sun Yat-sen University

Zhuhai

College Students' Innovative Entrepreneurial Training Plan Program *Oct 2024 – present*

- *Summary:* Comparing skein algebras and quantum cluster algebras of certain semisimple Lie algebras.
- *Advisor:* Prof. Min Huang.

Skills

Programming languages: MATLAB, SageMath, LaTeX.

Honors and Awards

2023: Third Prize Scholarship.

2024: Excellent Student Cadre.