

Jiahao Liang

Research Interests

Quantum information theory, Quantum computation.

Education

2023.09–2027.06 **South China University of Technology**,
Mathematics and Applied Mathematics, Undergraduate.
GPA: 3.83/4.0 Ranking: 3/141

Research Training

2024.04–2025.03 **Undergraduate Research Program (SRP)**, *South China University of Technology*, Advisor: Prof. Hao Sun.

- Research: Invariant theory about Lie groups and Lie algebras.
- Paper: Chevalley restriction theorem for classical simple Lie algebra
- Explicit proofs of Chevalley restriction theorem for $A_n/B_n/C_n/D_n$ simple Lie algebras; computed generators of invariant polynomials. Completed formal thesis.

Honors

2026.06 **17th S.-T. Yau College Student Mathematics Contest**, *Written Round Outstanding Award (Analysis & PDE)*, International.
2025.06 **16th S.-T. Yau College Student Mathematics Contest**, *Written Round Outstanding Award (Analysis & PDE)*, International.
2024.10 **National College Mathematics Competition**, *First Prize (Guangdong)*, Provincial.
2024.12 **National Scholarship**, National.

Activities

2023.12–Present **Mathematics Seminar**, *Speaker and leader*, South China University of Technology.
Topics: Advanced Modern Algebra, Manifolds, Lie groups and Lie algebras.
2025.12.21 **Special Talk on Abstract Algebra**, *South China University of Technology*, Representative.

- Topic: Multiplicative Group of Finite Fields and Quadratic Reciprocity (90 min).

2025.07 **Summer School of Cryptography and Mathematics**, *Institute of Information Engineering, Chinese Academy of Sciences*, Outstanding Student.

- Studied professional courses in mathematics and cryptography
- Delivered a presentation on related research problems

2024.07–08 **Summer School of Algebra and Number Theory**, *Academy of Mathematics and Systems Science, Chinese Academy of Sciences*.

- Attended lectures covering algebraic geometry, algebraic number theory and representation theory

Skills

Languages Mandarin (native), Cantonese (fluent), English; C++, Python, SQL
Research Independent research, theorem proving, academic writing
Presentation Good at organizing and explaining abstract mathematics clearly and accessibly.

References

- **Dr. Zhu-Jun Zheng**
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- **Dr. Hao Sun**
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