# Shutao Bi

Curriculum Vitae

M.Sc. Student in Mathematics | Shandong University, China
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## Education

**M.Sc. in Mathematics** September 2024 – July 2027 (expected)
Shandong University, China

**B.Sc. in Mathematics and Applied Mathematics** September 2020 – July 2024
Shandong University, China

## Research Interests

My interests are noncommutative geometry, deformation theory, and threefold flops. I would like to explore derived algebraic geometry as a possible direction for doctoral study.

## Preprints and Manuscripts

1. Shutao Bi (2026). *Semisimple Deformations of Contraction Algebras for Smooth Threefold Flops*. arXiv:2611.12490.
2. Shutao Bi (2026). *On the Type E case of the Brown–Wemyss realization conjecture*. Full text.

Both manuscripts were developed with the assistance of large language models.

## Research Experience

**Noncommutative Algebraic Geometry and Threefold Flops**
My research focuses on contraction algebras and their connections with threefold flops and Gopakumar–Vafa invariants. I have worked on the following topics.

- Semisimple deformations of contraction algebras and the structure of their simple modules.
- Flatness and base change for contraction algebras, their centres, and their zeroth Hochschild homology.
- Geometric realization of completed Jacobi algebras as contraction algebras.

## Languages

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|---|---|
| Mandarin Chinese | Native |
| English | IELTS Academic, overall band score 6.5 |
| French | DELF A2 |