

# YUNHAI XIANG

## EDUCATION

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<b>Western University</b> <i>Ph.D.</i> in Mathematics (in progress) Advisor: Chris Hall Specialization: Number Theory and Arithmetic Geometry	2025 — <i>Now</i>
<b>Western University</b> <i>M.Sc.</i> in Mathematics Advisor: Chris Hall	2024
<b>University of Waterloo</b> <i>B.Math.</i> in Pure Mathematics, Honors, with Distinction	2018 — 2023

## SKILLS

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<b>Languages</b>	Mandarin (Native), English (Fluent), French (Beginner)
<b>Programming</b>	Python, C++, Lean
<b>Softwares</b>	LaTeX, SageMath, Git, Cinema 4D

## AWARDS

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**Mathematics Undergraduate Research Award** 2022

- Highly competitive undergrad research award of value \$10000 at University of Waterloo. Worked on research project in summer related to Weyl groups, supervised by Prof. Matthew Satriano.

## CONFERENCES, SEMINARS, AND TALKS

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### Conferences Talks

- *Rigid Analytic Geometry*, Summer 2024, Ontario Graduate Mathematics Conference, UWaterloo
- *Schubert Calculus and Cohomology of Grassmannians*, Summer 2022, Canadian Undergraduate Mathematics Conference, Université Laval

### Conference Attendance

- Coming soon.

### Seminar Talks

- *Weyl Group and Root Datum*, Summer 2025, Algebraic Groups Seminar, UWO
- *Hecke Operators*, Summer 2025, Algebraic Groups Seminar, UWO
- *Parabolic and Borel Subgroups*, Summer 2025, Algebraic Groups Seminar, UWO
- *Lie Algebras of Algebraic Groups*, Summer 2025, Algebraic Groups Seminar, UWO
- *Non-Archimedean Fields*, Summer 2024, Rigid Analytic Geometry Seminar, UWO
- *Admissible Topology*, Summer 2024, Rigid Analytic Geometry Seminar, UWO
- *Cones and Affine Toric Varieties*, Summer 2024, Toric Varieties Learning Seminar, UWO
- *Galois Cohomology*, Winter 2024, Graduate Student Seminar, UWO
- *Derived Categories*, Fall 2022, Algebraic Geometry Working Seminar, UWaterloo

### Mathematical Outreach Talks

- *Surreal Numbers and the Game of Go*, Summer 2025, Western Summer Math Camp
- *Mathematical Magic Tricks: Gilbreath's Principle*, Summer 2024, Western Summer Math Camp
- *Why is There no Quintic Formula*, Summer 2024, Western Summer Math Camp

### **Seminar Organization**

- Algebraic Geometry Student Seminar, Fall 2024, co-organized with Alex Zwart
- Toric Varieties Learning Seminar, Summer 2024, co-organized with Nicolas Rieke

## **TEACHING & MENTORING**

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### **Course Instructorship**

- Coming soon.

### **Teaching Assistantship**

- MATH 3150, Elementary Number Theory I, Fall 2024
- MATH 2155, Mathematical Structures, Fall 2025
- CALCULUS 1501, Calculus II for Mathematical and Physical Sciences, Winter 2025
- MATH 1229, Methods of Matrix Algebra, Summer 2024, Summer 2025
- MATH 1228, Methods of Finite Mathematics, Summer 2024, Summer 2025
- CALCULUS 1000, Calculus 1, Winter 2024, Summer 2024, Winter 2025, Fall 2025

### **Directed Reading Program Mentorship**

- Coming soon.