YUNHAI XIANG

EDUCATION

Western University *2025 — Now*
Ph.D. in Mathematics (in progress)
Advisor: Chris Hall
Specialization: Number Theory and Arithmetic Geometry

Western University *2024*
M.Sc. in Mathematics
Advisor: Chris Hall

University of Waterloo *2018 — 2023*
B.Math. in Pure Mathematics, Honors, with Distinction

SKILLS

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

AWARDS

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, supervized by Prof. Matthew Satriano.

CONFERENCES & SEMINARS

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

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

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

Mathematical Outreach Lectures

· *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

Directed Reading Program Mentorship

· Coming soon.