Yanshu Wang

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OBJECTIVE

I am interested in number theory. I have done the Polymath Jr. REU with the topic of Dessin d'enfants (arithmetic approach). I have finished relevant courses including Abstract Algebra, Galois Theory, Number Theory, and Commutative Algebra. Currently, I am self-learning scheme theory to prepare to learn arithmetic geometry and at the same time, taking the Analytic Number Theory course and self-learn Fourier decoupling theory. I have experience of writing papers and am fluent with latex. My programming also includes C++, python, lean4, html & css & javascript.

EDUCATION

Bachelor – Math and Applied Math
Nankai University Sep 2022 — Jun 2026(expected)
Grade Point Average: 3.81/4 or 91.42/100

####RELEVANT COURSEWORK: MATH0130 Mathematical Analysis I 100
MATH0083 Advanced Algebra and Analytic Geometry 2-1 100
MATH0068 Computer Set Theory and Logic 91
MATH0133 Mathematical Analysis II 97
MATH0078 Advanced Algebra and Analytic Geometry 2-2 92
MATH0097 Ordinary Differential Equations 96
MATH0147 Complex Variable Function II passed
MATH0132 Abstract Algebra I 88
MATH0145 Complex Variable Functions 97
MATH0146 Mathematical Analysis III 98
MATH0134 Abstract Algebra II 95
MATH0055 Number Theory 92
MATH0065 Probability Theory 85
MATH0079 Pointwise Topology 84
MATH0102 Commutative Algebra
MATH0136 Galois Theory 96
MATH0151 Real Analysis 81
MATH0162 Lie Groups and Algebraic Groups 90

RESEARCH EXPERIENCE

Polymath Jr.

This is a group project. Our group gives algebraic and complex analytic approaches to computing an affine model for K_9 dessin, and I draw a visualization of K_9 dessin through the morphism $\pi_1(P_8/\sim) \mapsto \mathbb{Z}[\zeta_8]/(1+\sqrt{-2})$. For my contribution, I work out the algebraic approaches and draw the visualization. I also gave the final presentation of the group work, wrote the algebraic approaches part of the paper (the paper is still in progress), and made the poster that was submitted to JMM 2025. If there is no visa issue, I will go to JMM 2025 and give a talk about that.

OTHER EXPERIENCE

BICMR AI4MATH

I collaborate with four students to formalize in lean4 that Algebraic integer of $\mathbb{Q}[\sqrt{-3}]$ is PID. I learn a a lot of knowledge about functional programming and constructing a proof assistant. I lean some basic dependent type theory. Above all, I gain more ability of collaboration and of learning new things quickly.

SCHOLARSHIP

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SPECIAL SKILLS

Programming Language

C++; python; sage; Wolfram Language; latex(fluent); lean4; html & css & javascript; bash