Jiantong Liu*

Information \diamond Email: jl106@illinois.edu Department of Mathematics

♦ Website: jiantongliu.github.io University of Illinois Urbana-Champaign

Urbana, IL 61801

Research Algebraic Geometry, Algebraic K-theory, Category Theory, Homotopy Theory. Interest

Education University of Illinois Urbana-Champaign (UIUC) Aug 2023 - Present

Ph.D., Mathematics

University of California, Los Angeles (UCLA)

Sept 2019 - Jun 2023

B.S., Mathematics, with Highest Departmental HonorsB.S., Cognitive Science, with Specialization in Computing

Talks External

♦ Bounds in Simple Hexagonal Lattice and Classification of 11-stick Knots. AMS Special Session at Joint Mathematics Meeting, January 2023, Boston, Massachusetts.

Internal

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♦ Quillen and Suslin's K-theory. (4 parts) UIUC Algebraic K-theory Reading Seminar, October & November 2023.

Topics: (1) Brauer lift, (2) Quillen's detection theorem, (3) Quillen's localization theorem and dévissage theorem, (4) Suslin's K-theory over algebraically closed fields.

♦ Triangulated Category's Christmas Wish List. UIUC Graduate Algebraic Geometry and Commutative Algebra Seminar, September 2023.

AWARDS UCLA Latin Honors, Magna cum laude Jun 2023

UCLA Highest Departmental Honors in Mathematics

Jun 2023

RESEARCH Undergraduate Researcher at Polymath Jr Jun 2022 - Jan 2023

EXPERIENCE Topic: On combinatorial knot theory, in particular on stick knots.

Supervisors: Professor Marion Campisi, Nicholas Cazet

Undergraduate Researcher at UCLA CAM REU

Jun 2021 - Aug 2021

Topic: On compartmental modeling, in particular on SEIR models.

Supervisors: Professor Andrea Bertozzi, Professor Paul Brantingham, Professor David Hyde, Professor Chuntian Wang, Yotam Yaniv

Lab Research Assistant at UCLA Psychology Department Mar 2022 - Mar 2023 Topic: On object recognition and motion perception.

Supervisors: Professor Zili Liu, Yang Xing, Maggie Yeh

 $^{^*{\}rm Last}$ updated November 25, 2023.

TEACHING At UIUC

 \diamond Course Grader Aug 2023 - Present

241 Calculus III

At UCLA

♦ Course Grader Sept 2020 - Sept 2022

 ${\bf 115AH}\,$ Honors Linear Algebra

115A Linear Algebra

105ABC Mathematics for Teaching

♦ Assistant Instructor at UCLA Math Circle Sept 2021 - Jun 2023

Services UIUC Graduate Affairs Committee Aug 2023 - May 2024

Organization for Transformative Works (OTW) Oct 2018 - Present

Skills Programming Languages: R, Python, Java, C++

Other Mathematical Tools: MATLAB, Lean, Agda

General Tools: WordPress, LATEX

Language: Chinese (native), English (fluent)