

SUMMER HAAG

(404) 496-9932 \diamond summer.haag@colorado.edu

3182 Westwood Ct, Boulder CO, 80304

Research Interests: Circle packings, arithmetic groups, continued fractions, illustrating mathematics

EDUCATION

University of Colorado at Boulder, Boulder CO

August 2022 — Present

PhD candidate

MA in mathematics, Fall 2024

University of Georgia, Athens GA

August 2018 — May 2022

BA in mathematics

PUBLICATIONS & PREPRINTS

The local-global conjecture for Apollonian circle packings is false

S. Haag, C. Kertzer, J. Rickards, K. Stange

Annals of Mathematics (arxiv, eprint)

Computational study of non-unitary partitions

A.P. Akande, T. Genao, S. Haag, M. Hendon, N. Pulagam, R. Schneider, A. Sills.

J. of the

Ramanujan Mathematical Society (arxiv)

INVITED CONFERENCE TALKS

Local-global Conjecture for Apollonian Circle Packings

CT Number Theory

UConn

June 2024

AWARDS & NOMINATIONS

Quanta Magazine- Research Feature

Featured in an article in Quanta Magazine by Max G. Levy covering the Local-Global Conjecture for Apollonian circle packings. ([Article reference](#))

UGA Strahan Award

Nominated by professors for excellence in mathematics as a junior in undergraduate.

CURO Assistantship

Received 1,000 at UGA for research in Number Theory to present at the CURO Symposium.

The Hollingsworth Award

Nominated and recieved at UGA for excellence in Math.

SEMINARS AND OTHER TALKS

INVITATIONAL CONFERENCES AND WORKSHOPS

- CTNT Summer School and Conference 2024
- Joint Mathematics Maeeting 2025 — Organizer for Special Session on Local-to-Global in Apollo-nian Circle Packings and Beyond.

CONFERENCES ATTENDED

- Math for All 2023, 2024

TEACHING EXPERIENCE

Primary Instructor University of Colorado Boulder	
• Calculus II	Fall 2023, Summer 2024, Fall 2024
Calculus Teaching Assistant University of Colorado Boulder	
• Precalculus	Spring 2025
• Calculus I	Fall 2022
• Calculus II	Spring 2023
• Calculus III	Spring 2024

SERVICE & MENTORSHIP

Math Peer Mentorship Older graduate students pair with first year graduate students		<i>Mentor</i> Fall 2023 — Spring 2024.
Reading Groups University of Colorado, Boulder		<i>Organizer</i>
• p -adic Analysis — Summer 2024.		

OPEN SOURCE SOFTWARE

Github
Public repository of code for research in Apollonian Circle Packings <https://github.com/summerhaag>