

RAGHAVENDRA BHAT

CURRICULUM VITAE

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Research Interests: Analytic Number Theory, Computational Number Theory, Game Theory

EDUCATION

University of Illinois, Urbana-Champaign

Master of Science in Mathematics

Aug 2022 -

University of Illinois, Urbana-Champaign

Bachelor of Science, Mathematics, minor in Computer Science. *GPA: 3.91*

Aug 2019 - Dec 2021

Graduated with Highest Distinction, *Cum Laude* and Dean's List.

RELEVANT COURSEWORK

Mathematics: Analytic Number Theory, Distribution of Sequences, Algebraic Number Theory, Exponential Sums, Elementary Number Theory, Real Analysis, Complex Analysis, Linear Algebra, Abstract Algebra, Discrete Mathematics, Calculus.

Computer Science: Graduate Algorithms, Algorithms and Models of Computation, Machine Learning, Artificial Intelligence, Data Structures, Numerical Methods, Programming in Python.

PUBLICATIONS AND PRE-PRINTS (NEWEST FIRST)

Book

1. MATH - a Subtle Language of the Universe

Published Papers

1. Raghavendra N. Bhat, Cristian Cobeli, Alexandru Zaharescu. "Filtered rays over iterated absolute differences on layers of integers" (accepted for publication: Chaos, Solitons and Fractals. Nov 2023).
2. Raghavendra N. Bhat, Cristian Cobeli, Alexandru Zaharescu. "On Quasi-Periodicity in Proth-Gilbreath Triangles"(accepted for publication: Bulletin Mathematique, Romania. Nov 2023).
3. Raghavendra N. Bhat. "An Abelian Loop for Non-Composites" Missouri Journal of Mathematical Sciences, Missouri J. Math. Sci. 34(2), 191-195, (Nov 2022).
4. Raghavendra N. Bhat. "Distribution of Square-Prime Numbers" Missouri Journal of Mathematical Sciences, Missouri J. Math. Sci. 34(1), 121-126, (May 2022).

arXiv Pre-Prints

1. Raghavendra N. Bhat. "Sequences, Series and Uniform Distribution of Square-Prime numbers".
2. Raghavendra N. Bhat, Sundarraman Madhusudanan. "Algebraic Results on SP Numbers along with a generalization".
3. Raghavendra N. Bhat. "An Algebraic Structure for Square-Prime Numbers".
4. Raghavendra N. Bhat. "A Game of Primes".

Reviewed articles for Journals

- Indian Journal of Mathematics

WORK EXPERIENCE

Graduate Teaching Assistant

TA for Math 227 (*Linear Algebra for Data Science*), Math 221 (*Calculus 1*)

University of Illinois

Aug 2022 - Present

- Stand alone instructor for 2 sections of Labs, held office hours.
- Ranked an excellent teacher by student ratings.
- Explained concepts in Linear Algebra, Calculus, Numerical Methods and Regression to 100+ students.
- Created and compiled homework and test questions on various online platforms.
- Converted part of the Lin.Alg. course to a Mastery-Platform, facilitating auto graded programming.

Wolfram Research Inc.
Intern (Certified Wolfram Instructor for Programming Fundamentals)

Champaign, Illinois
Feb 2022 - Present

- Wrote a book on Number Theory as part of Wolfram's outreach for Computational Math.
- Assisted leading math researchers & developers for their projects in Mathematica.
- Explained programming concepts to solve issues encountered while coding in the Wolfram Language.
- Ran computational experiments for Number Theoretical conjectures.
- Responsible for developing exercises and modules for the Wolfram U Number Theory course.
- Verified and reported Bugs and Crashes.

Consultant

May 2022 - Aug 2022

- Worked on a Research project evaluating quality of OCR packages & color recognition from images.
- Foundational prototype project in Python and Flutter for upcoming iOS App.

NetMath Illinois

Academic Hourly

Feb 2022 - Aug 2022

- Designed online module for a fundamental course in mathematical proof writing.
- Project involved back-end and front-end coding for online platform, Prairie Learn.
- Wrote over 300 math questions intended to serve as homework and learning checks for students.

NOTABLE TALKS AND PRESENTATIONS

“SP numbers over Layers of integers” poster presentation- University of Michigan, Ann Arbor.	Oct 2023
“Mathematics and Computation” - Manipal Institute of Technology, Manipal.	July 2023
“Distribution of Square-Prime numbers” - West Coast Number Theory Conference.	Dec 2021
“Square-Prime Numbers” poster presentation - Math Symposium, University of Illinois, Chicago.	Nov 2021
“Prime Number Conjectures” - MIGHTY Ohio Math Conference, Ohio State University.	Oct 2019

AWARDS

- Nominated - College-level Teaching Award (Award to be announced in Spring 2024) Nov 2023

ADDITIONAL RESEARCH EXPERIENCE

Summer Graduate School at MSRI/SLMath

June 2023

- Selected by the University of Illinois to attend a 2 week Graduate program at MSRI, Berkeley.
- The workshop focused on Math for Market Mechanism and Design.
- Was involved in a group project exploring Moral bidders in auctions.

SKILLS

Programming Languages: Python, Flutter, C++, Wolfram Language
Software: Technical Support, Code Development, Data Structures & Algorithms
Other skills:: Public Speaking, Critical Thinking, Music (Tabla, Violin)