Julie **Yuan**

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Education

University of Minnesota - Twin Cities   *Minneapolis, MN*

B.S. in Mathematics and Computer Science, GPA: 4.0/4.0   *Sept. 2017 - Jun. 2020 (Expected)*

Selected Coursework:

- **MATH 5615:** Real Analysis I
- **MATH 5345:** Topology
- **MATH 4281:** Introduction to Abstract Algebra
- **CSCI 1933:** Introduction to Algorithms and Data Structures
- **CSCI 2011:** Discrete Mathematics
- **CSCI 1133:** Introduction to Programming (Python)

Edina High School   *Edina, MN*

High School Diploma, GPA: 4.0/4.0   *Sept. 2014 - Jun. 2017*

- Graduate of University of Minnesota Talented Youth Mathematics Program (UMTYMP)
- Dual-enrollment through the Post-Secondary Enrollment Options (PSEO) program at the University of Minnesota

Experience

Undergraduate Teaching Assistant   *Minneapolis, MN*

Department of Computer Science (CSCI 1133), University of Minnesota   *Sept. 2017 - PRESENT*

- Teaching assistant position for the University's core introductory course to the computer science major.
- Answering student questions and providing technical support during two lab sections per week.
- Grading weekly assessments and summative projects.
- Maintaining grading system that provides automatic feedback to students via GitHub.

Undergraduate Teaching Assistant   *Minneapolis, MN*

UMTYMP (Algebra I/II), University of Minnesota   *Sept. 2017 - PRESENT*

- Teaching assistant position for an accelerated math program for talented middle-school students.
- Supporting instructor during weekly class sessions and supervising groupwork.
- Grading weekly homework assignments and proctoring exams.

Projects

Geometric Representations of Polynomial Roots over Finite Fields

Directed Undergraduate Research, MathCEP (Dr. Julie Rana)

- *Abstract:* In 2006, M. Mills demonstrated that the roots of certain polynomials in $\mathbb{F}_3[x]$ form maximal caps. We extend this idea by exploiting the existence of a bijection between finite fields of prime power order and vector spaces over finite fields to visualize polynomials as collections of points in affine space. In doing so, we identify two distinct categories of "line-containing" polynomials and develop criteria for determining whether a polynomial contains a line and if so, how many such lines.
- Presented results at MAA North Central Sectional Meeting, Fall 2017.

Honors & Awards

2017	**Excellence in First-Year Writing Award**, "Exploring Intersectionality: The Case of Joan Little," University of Minnesota First-Year Writing Program	
2017	**National Merit Finalist and Scholarship Recipient**, Edina High School	

Skills

Programming	Python 3, Java
Misc.	Git/GitHub, LaTeX, SageMath, HTML/CSS