

# Matthew Yuan

github.com/code-by-matt  
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609-216-0038

## Education

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- Princeton University**, Princeton, NJ September 2017–June 2021 (Expected)
- Bachelor of Arts (A.B.) in Mathematics, 3.8 GPA.
  - Coursework includes Macroeconomics, Algorithms and Data Structures, Probability and Stochastic Systems, Linear Algebra, Multivariable Calculus, Combinatorics, Real Analysis, and Fourier Analysis.
- Coursera**, coursera.org May 2019–Present
- Machine Learning by Stanford University.

## Skills

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### Programming Languages and Frameworks

- Java, Python, HTML/CSS, JavaScript, Django, PostgreSQL, Bootstrap, Git,  $\text{\LaTeX}$ .

### Concepts

- Object-Oriented Programming, Machine Learning, Mathematical Reasoning, Teaching.

### Languages

- English, Mandarin.

## Experience

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- Algebraic Geometry Research**, Princeton University June 2019–Present
- Study Shafarevich’s *Basic Algebraic Geometry 1* under Professor János Kollár.
  - Meet weekly with Prof. Kollár as part of a 7-person research group.
- Course Assistant**, Princeton University September 2018–May 2019
- Lead weekly problem sessions for about 50 students in Real Analysis and Linear Algebra.
  - Help students understand complex mathematical ideas and guide students through homework problems.

## Projects

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- Thue-Morse Connect Four**, github.com/code-by-matt/tmc4online October 2018–Present
- Built a variant of Connect Four to explore what happens when players take turns following the Thue-Morse sequence. Intended to eliminate the game’s first-player advantage. See it at code-by-matt.github.io/connect4.
  - Currently building a fully-featured version that will allow users to play each other online.
  - Uses HTML/CSS, JavaScript, Python, Django, PostgreSQL, Bootstrap, and Git.
- Seam Carving**, class project April 2019
- Implemented an image resizing algorithm in Java that preserves an image’s content without cropping or stretching.
  - Achieved by using Dijkstra’s algorithm to find minimal-energy seams in an image.

## Activities

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- Author in Princeton Undergraduate Research Journal**, bit.ly/2W72vBR Spring 2019
- Presented a creative, narrative explanation of Carl Friedrich Gauss’s discovery that the regular seventeen-sided polygon is constructible using a compass and straightedge.
  - Driven by curiosity and a desire to understand the real-world historical context of Gauss’s work.
  - 1 of 5 papers selected for publication out of 23 total submissions.
- Editor of Profiles in Entrepreneurship**, medium.com/profiles-in-entrepreneurship October 2018–Present
- Manage a team of 4 writers for an intercollegiate publication that provides student entrepreneurs actionable advice from startup founders and VCs.
  - Produced over 30 articles in the 2018–2019 school year.