

# Ashley K. W. Warren

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## SUMMARY

Math Ph. D. who loves problem-solving, writing/learning code, and presenting hard topics in an attractive, down-to-earth way to a diverse audience. Organized, can work independently or with a team, and excellent with attention to detail.

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## LANGUAGES

L<sup>A</sup>T<sub>E</sub>X, Python (pandas, BeautifulSoup/selenium, json), HTML/CSS, JavaScript (d3.js), Maculay2, C, R, SageMath.

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## EXPERIENCE

### Visiting Assistant Professor

- *Centre College, Fall 2023-Present*. Taught intro to stats (linear regression, hypothesis testing, confidence intervals) with R/Posit Cloud.
- *Georgia Institute of Technology (Georgia Tech), Fall 2021-Spring 2023*. Taught linear algebra and intro to commutative algebra (grad level).
- *Mount Holyoke College (MHC), Summer 2018-Summer 2021*. Women's college. Taught calc I-III, group theory, ring theory, and discrete math, on-site and remotely.
- *James Madison University, Fall 2017-Spring 2018*. Taught calc I-II and linear algebra with differential equations. Used basic SageMath in assignments.

### Teaching Assistant, Data Science Boot Camp

- *Erdős Institute, May 2023*.
- Ran daily problem sessions. Position application required demonstrated proficiency with Python.

### Research Mentor, Research Experience for Undergraduates (REU)

- *Georgia Tech, Summer 2022*. Toric structure of principal 2-minor ideals. Applications in integer programming, mirror symmetry, coding theory, algebraic statistics, and geometric modeling. Presented at the Joint Math Meetings in January 2023.
- *Mathematical Sciences Research Institute (MSRI), Summer 2016*. REU created to attract students from underrepresented backgrounds. Published a paper on sandpile groups: [Arixv version](#).
- *MSRI, Summer 2009*. Coding theory. Produced [6 new error-correcting codes](#).

### Coach, William Lowell Putnam Math Competition

- Prestigious math competition. National average 0/120.
- *MHC, 2018-2019*. Top score 10/120.
- *University of Arkansas, 2016*. Top score: 26/120.

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## PROJECTS

**Coding Blog (Summer 2017-Present)**. [Reflections and progress on learning code](#) (C, Python, JavaScript).

**Fitbit Stats (Spring 2023)**. Final project for the Erdős Institute data visualization minicourse. [Dashboard](#) displaying some of my Fitbit data from the past year. Primarily made using JavaScript.

**Calculus Videos (Spring 2022)**. [Youtube videos](#) featuring topics in a first semester calculus course.

**Virtual Inspiring Talk: Defining Equations for Matroid Varieties (Fall 2020)**. Published project on matroid varieties using linear algebra ([Arxiv version](#)). [Youtube playlist](#) targeted at undergraduates. Features advice for members of underrepresented groups who wish to pursue a Ph. D. in mathematics.

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## EDUCATION

### University of Michigan

*Ph. D. in Mathematics, 2014*

- Thesis: *Ideals Generated by Principal Minors*, under Mel Hochster. Solving systems of polynomial equations. Published in two parts: [Arxiv version of part 1](#) and [part 2](#).

### Kansas State University

*B.S. in Mathematics, 2008*

- McNair Scholar
- Nominee, Barry Goldwater Scholarship