Ashley K. W. Warren

Location: Danville, KY

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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.

LANGUAGES

LaTeX, Python (pandas, BeautifulSoup/selenium, json), HTML/CSS, JavaScript (d3.js), Macualay2, C, R.

The [Coding](#) page on my website has details about my experience with each of these languages.

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 Technolgy (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
- *Erdös 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 prinicpal 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.

PROJECTS

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

Fitbit Stats (Spring 2023). Final project for the Erdös Institute data visualization minicourse. [Dashboard](#) displaying some of my Fitibit 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.

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