

Joshua Ruiter

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SUMMARY

Mathematics PhD from Michigan State University, interested in linear algebraic groups and economic game theory. Experienced in breaking down complex ideas to provide decision makers with the ability to implement solutions, and developing learning and educational strategies to inspire junior students and fellow faculty. Seeking a position as a data scientist or data analyst.

EDUCATION

Michigan State University, Ph.D (mathematics) 2022
Calvin University, B.A. (mathematics), 2016

SKILLS AND CERTIFICATIONS

- Languages and platforms: Python (5+ years), MATLAB (5+ years), $\text{\LaTeX}$ (10+ years), Excel (10+ years), Git (3 years)
- Soft skills: Goal oriented, organized, clear communication
- Certifications: The Erdős Institute Data Science Boot Camp (2025), Deep Learning Boot Camp (2026)
- Languages: Some proficiency in French, Hindi, and Mandarin.
- Other: Navigating large databases through search refinement, preparing educational and professional documents

WORK EXPERIENCE

Virginia Wesleyan University: Virginia Beach, VA 2024-present
Visiting Assistant Professor (mathematics)

- Instructed 5 courses using mastery-based grading impacting 80 students in Calculus and Intro-to-Proofs courses, and produced infographics using Excel and $\text{\LaTeX}$ to efficiently communicate with students about their grades
- Restructured Calculus curriculum to increase graphical intuition for 45 students
- Refined lab notebook assignment (see below) including collecting and analyzing survey data from Calculus students

Grinnell College: Grinnell, IA 2022-2024
Assistant Professor (mathematics)

- Implemented elements of mastery-based grading in Abstract Algebra course, impacting 13 students
- Developed a long-duration lab notebook assignment to improve visualization skills for 100+ calculus students
- Mentored 2 students in an undergraduate research project using MATLAB and Python to study algebraic groups

ICERM: Providence, RI 2016
Graduate Teaching Assistant

- Co-led two undergraduate research groups in modeling with dynamical systems
- Generated visualizations in MATLAB for propagation effects of weak neighbor interaction ODEs on networks, contributing to a publication on opinion spread

Michigan State University: East Lansing, MI 2016-2022
Graduate Teaching Assistant

- Instructor of record for 10+ course sections including Calculus 1, 2, and 3, and Intro-to-Proofs
- Managed a team of 10+ graduate teaching assistants for multivariable calculus as lead TA, providing pedagogical feedback based on classroom observations
- Created assessments and teaching notes in $\text{\LaTeX}$ as part of a team for Intro-to-Proofs course
- Presented 10+ graduate seminars on topics such as Galois descent and algebraic tori, utilizing $\text{\LaTeX}$ and Beamer to provide accompanying slides and written reports

SELECTED PROJECTS

Harmonic Analysis for Genre Prediction – *The Erdős Institute*

- Exploratory data analysis on a large (600,000 item) data set to identify likely predictors
- Developed tools in Python (Numpy and Scikit-learn) to classify musical genre based on chord progression 2025

Hullseek – *The Erdős Institute*

- Trained a neural network using FastAI/PyTorch to detect biofouling in underwater image data 2026

AWARDS AND PUBLICATIONS

MSU TA Award for Excellence in Teaching 2021
MSU College of Natural Science Recruiting Fellowship 2016
On abstract homomorphisms of some special unitary groups - Rapinchuk, Ruiter - Published by AMS - [\[Paper\]](#) 2022
Consensus and clustering in opinion formation on networks - Bujalski et al. - Published by the Royal Society - [\[Paper\]](#) 2018