Paul Rapoport

This resume is up to date as of January 2024.

Contact Information and Personal Information

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Employment

- SERI MATS Scholar (Tsvi Benson-Tilsen, solo mentorship). Summer 2024.
- Independent researcher for OpenPhilanthropy's Long-Term Future Scholarship program. Late 2023 - Early 2024.
- Independent researcher for the Center for Long-term Risk. 2H 2023, renewed once.
- SERI MATS Scholar (John Wentworth's offsite track). Summer 2023.
- Research-Track Postdoctoral Instructor at Temple University. Fall 2022-Spring 2023.
- Graduate TA at the University of Illinois at Chicago. Fall 2015-Fall 2020.
- Various teaching positions at UIC and Temple, teaching Mathematical Reasoning, Precalculus, Calculus I, and Calculus II, and grading for all of the previous classes as well as Calculus III. Fall 2015-Spring 2023.

Education

- PhD: University of Illinois at Chicago. Enrolled 2017-2021. Completed in December 2021. GPA: 3.8
- Thesis: "On the profinite distinguishability of hyperbolic Dehn fillings of finite-volume 3-manifolds". Advisor: Professor Daniel Groves. Defended in May 2021, socially distanced.
- MS: University of Illinois at Chicago. Enrolled 2015-2017. Graduated from program in May 2017. Master's thesis available on request.
- AB: Princeton University. Enrolled 2011-2015. Concentration in mathematics. Awarded in May 2015. Junior and senior theses available on request.
- Internship in Dr. Y. S. Kim's research lab (mathematics/econometrics) at KAIST (Korea Advanced Institute of Science and Technology). Summer 2009 and 2010. Paper resulted, titled "A Random Matrix Theory-based analysis of the correlation between commodities prices and the day-to-day log returns of commodities-based S&P 500 stocks."

Papers

- "On the profinite distinguishability of hyperbolic Dehn fillings of finite-volume 3-manifolds", found at `https://arxiv.org/abs/2102.10445`. Accepted for publication to the Journal of Algebraic and Geometric Topology as of 2023-10-01.
- An currently unnamed paper about several newly constructed regular apeirohedra. Currently in preparation.

Skills, Qualities, and References

- Mathematics and quantitative reasoning, including probability and probabilistic reasoning, statistics, game theory, and topology
- Self-directed learning; including original research, autodidactism, and personal-interest study of academic topics
- General research skills; including the ability to make and test hypotheses, handle large volumes of data, and fearlessly confront my own ignorance
- Data analysis ability sufficient to build and test useful predictive models, including an ongoing personal-use actuarial project (Tontine)
- Working familiarity with Python, LaTeX, and MATLAB
- Working familiarity with machine learning systems, both on an object level and from an alignment perspective
- Understanding of microeconomics, primarily as a branch of game theory/decision theory
- Understanding of macroeconomics, primarily through independently-driven study and some experiment
- Maintenance of an experimental macroeconomic engine (the Lorxus Favor)
- General security mindset with respect to errors, adversaries, and necessary exceptions/affordances
- Wide breadth of knowledge on academic topics, most notably molecular biology, linguistics, and geopolitics/geoeconomics/rational war theory
- SAT score: 1560/1600
- US Citizen and National
- Language competency: English (native), Korean, French, Spanish
- Professional references available upon request.