HOSEA WONDO

POSTDOCTORAL RESEARCHER IN MATHEMATICS

CONTACT

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https://github.com/hwondo/Portfolio

SKILLS

Programming

- Python
- R
- SQL

Data Analysis

- Statistical Analysis
- Predictive Modeling
- Time Series Analysis
- Machine Learning
- Data Wrangling
- Visualization

Mathematics Research

- Research & Analytical Thinking
- Abstract & Logical Reasoning
- Technical Writing & Reporting
- Public speaking & Presentations

LANGUAGES

- English (Fluent)
- Chinese (Beginner)

SUMMARY

Postdoctoral researcher in mathematics with strong expertise in quantitative analysis, statistical modelling, and data-driven problem solving. Skilled in Python to apply machine learning techniques, with experience through personal projects in financial analytics and housing price prediction (see GitHub). Seeking to apply research and analytical skills in industry.

PROJECTS

Data Analytics / Modelling

Completed the following projects (see Github).

Machine learning pipeline for predicting stock repurchases

- Gathers data obtained from multiple sources (SEC Edgar, St. Louise FRED and finance).
- Trains and tunes machine learning models to predict stock buybacks.

Analysis for Airbnb listings

- Spatial data visualisation and analysis using Folium maps, Ripley K and Getis-Ord statistics.
- Produced a time series forecast for revenue using seasonal decomposition.
- Created a regression model for price recommendations, involving spatial weights and sentiment from reviews.

WORK EXPERIENCE

Cornell University 2024 - 2025

Visiting Assistant Professor

- Completed original research in mathematics, resulting in a survey paper accepted in a peer-reviewed journal and a submitted preprint to a peer-reviewed journal.
- Organised and conducted university-level courses, Calculus I.
- Invited to give academic talks at various seminars (UC Irvine, Syracuse University and University of Oregon)

EDUCATION

Doctor of Philosophy (Science) 2020--2024
School of Mathematics and Statistics | University of Sydney
Awards and Scholarships:
- Research Training Program (2020-2023)

Bachelor of Science - Advance Mathematics (Honours) 2016--2020
School of Mathematics and Statistics | University of Sydney
Awards and Scholarships:
- David GA Jackson Prize (2019)
- Denison Summer Research Scholarship (2018)

PUBLICATIONS

Published the following in peer-reviewed journals:

- Gradient Shrinking Ricci Solitons and Modified Sectional Curvature, Preprint (2025)
- *Limit of the Kahler-Ricci Flow* to appear in Journal of Mathematical Study.
- *Independence of Singularity Type for Numerically Effective Kähler-Ricci Flows* Geometry and Topology Vol. 29, No. 1 (2025).
- *Singularity Types for Long-Time Chern-Ricci Flow,* Preprint (2024).
- *Calabi Symmetry and the Continuity Method* in International Journal of Mathematics, Vol. 34, No. 12 (2023).
- *Curvature Estimates for the Continuity Method* in Communications for Contemporary Mathematics, Vol. 25, No. 9. (2022).