LUCAS MARQUES SNELLER

Potomac, MD 20854 • snellelm@miamioh.edu • 301-655-1089

EDUCATION

Miami University Oxford, OH
Bachelor of Science in Political Science and Philosophy Expected May 2026

- Dual Major with an Economics Minor
- Awards: HASS Scholar, Prodesse Scholar

RELEVANT EXPERIENCE

HASS Undergraduate Research Program Oxford,OH
Undergraduate Researcher 2022-Present

- Utilize transferable skills and conduct extensive undergraduate research, conducted and presented research at symposium regarding DEI programs and availability in predominantly white institutions

Miami University Oxford,OH
Research Assistant 2025-Present

- Collaborate with faculty across Economics, Political Science, and Computer Science to support multiple concurrent research initiatives, translating research questions into reproducible data/analysis workflows, maintaining clear documentation, and delivering polished research outputs (projects detailed below).

Owens Corning Financial Case Study Competition Oxford, OH
Winner Spring 2023

- Awarded first place for study of international markets and provided the best new revenue sources

PROJECTS

- **LLM SOC Classification (Research Assistant):** Built an LLM-driven SOC-2018 classifier using Retrieval Augmented Generation (RAG), hybrid dense+sparse retrieval, Prediction Powered Inference (PPI), and exemplar prompting; designed a calibrated decision layer and prediction-powered inference with audit tooling.
- **Asian American History Project (Research Assistant):** Supported an initiative to document and digitize Asian and Asian American history in Ohio; ran OCR on scanned archives, built embeddings/vector indexes, and prototyped a multilingual RAG+LLM Q&A platform for researchers and community partners.
- **Economic Impact of Butler County Parks(Research Assistant):** Collaborated with faculty and local partners on a parcel-level GIS and hedonic pricing model; linked park proximity to housing sale prices, property tax uplift, and a tract-level Park Access Index tied to health outcomes, civic indicators, and quantitative estimates of parks' contributions to community well-being.
- **Double Machine Learning for Dynamic Panels:** Developed a DML inference framework for high-dimensional time series using Neyman-orthogonal partialling-out scores, blocked-time cross-fitting with buffering, and unit-clustered variance estimation ; established asymptotic normality under weak dependence and validated improved bias reduction through Monte Carlo stress-testing
- **Intermediary Asset Pricing & Sentiment:** Developed an endogenous two-state Markov Regime Switching model to identify intermediary constraints from aggregate returns ; demonstrated that negative sentiment shocks in constrained regimes trigger liquidity-driven crashes and predictable reversals in high-inventory-risk stocks, quantifying a $384 billion wealth transfer from forced sellers.
- **Mean Field Game Dynamics:** Formulated a dynamic MFG framework coupling endogenous price formation with overconfident Bayesian filtering; derived a closed-form linear feedback policy under Gaussian increments and utilized particle-based simulations to demonstrate that miscalibrated beliefs amplify trading intensity and cross-sectional disagreement.

RELEVANT QUALIFICATIONS

- **Analytical Skills -** Strong analytical and problem-solving abilities through identifying and analyzing complex data, identifying root causes of issues, and developing effective and innovative solutions to optimize processes and improve overall performance
- **Writing and Verbal Communication -** Effectively communicated complex information to audiences and peers through clear, concise, and persuasive written and verbal communication and successfully delivered impactful presentations, authored reports, and facilitated meetings, resulting in improved understanding and outcomes.
- **Technical Expertise -** Proficient in Microsoft Office Suite (Excel, Word, PowerPoint) and statistical analysis software (comfortable with Python, R, MATLAB, and STATA) with a strong aptitude for quickly learning and adapting to new technologies
- **Language:** Classroom study of Spanish and family exposure to Brazilian Portuguese
- **Interests:** Economics, Applied Mathematics, Dynamical Systems, AI/LLM development, Mathematical Modeling, Statistical Inference, and Decision Theory

ON CAMPUS INVOLVEMENT

MiamiU Economics Club Oxford, OH
Group Member