

Jacob VanNattan

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EDUCATION

Ph.D. in Economics , Washington University in St. Louis <i>Arts & Sciences Fellowship</i> <i>Advisor: Brian W. Rogers</i>	Anticipated 2028 2022–present
M.A. in Economics , Washington University in St. Louis	2024
M.A. in Crisis and Trauma Studies , Tel-Aviv University <i>Focus: Community resiliency and social responses to crises</i>	2016
B.S. in Economics , The University of Texas at Dallas <i>Minor: Statistics</i> <i>Honors: Magna Cum Laude, Eugene McDermott Scholar, National Merit Scholar, Major Honors with Distinction, Collegium V Honors</i>	2015

RESEARCH INTERESTS

Primary: Network Economics, Social Learning, Belief Formation, Strategic Behavior in Networks
Secondary: Conflict, Coordination, Collective Action

PUBLICATIONS

“Enhancing Resiliency and Promoting Prosocial Behavior Among Tanzanian Primary-School Students: A School-Based Intervention” (with Rony Berger, Joy Benatov, Raphael Cuadros, and Marc Gelkopf). *Transcultural Psychiatry*, 55(6): 821–845, 2018.

We develop and evaluate a culturally adapted school-based intervention for children facing chronic adversity in Tanzania. Students randomly assigned to the intervention showed significant improvements in resiliency and prosocial behaviors at both post-intervention and 8-month follow-up.

WORKING PAPERS

“Cooperation in a Dynamic Network” (with Nicole Immorlica, Brendan Lucier, and Brian W. Rogers). *Revising for resubmission to Games and Economic Behavior*.

We study cooperation in evolving networks where agents play repeated prisoner’s dilemmas and can sever relationships. Our results capture the observation that many social networks exhibit high but not universal cooperation. Low levels of cooperation can be sustained only through exclusivity among cooperating agents.

“Belief Formation on Networks” (with Junya Murayama, Brian W. Rogers, and Xiannong Zhang)

We design experiments to study how people combine interdependent information sources. About half of subjects solve problems requiring exact deduction, but essentially none solve similar problems with non-degenerate posteriors, suggesting success relies on fragile heuristics rather than robust understanding.

WORK IN PROGRESS

“Learning Who to Trust: A Joint Inference Theory of Persistent Disagreement”

A theory of endogenous weight formation in DeGroot-style social learning. Agents jointly infer source precision and state from observed disagreement; the resulting dynamics generate persistent disagreement as the generic outcome. Greater connectivity increases both fragmentation probability and welfare loss.

“Rational Joint Inference: Experimental Tests of Prior-Based Belief Updating”

Tests whether agents perform rational joint inference about source precision when observing disagreement with their prior. Two complementary laboratory designs vary the agent’s prior precision to identify the joint-inference-specific component of prior-based inference.

“Spectral Polarization: A Network-Aware Measure with an Application to Civil Conflict”

Formalizes the insufficiency of pairwise polarization indices for capturing network structure and introduces a spectral measure derived from the Fiedler vector. As an empirical application, the Spectral Polarization index significantly outperforms traditional measures in predicting civil conflict.

“Seeding Adoption Cascades in Homophilous Networks”

Develops a targeting framework for homophilous networks that exploits group-level structure and the timing of local cascades, achieving substantial cost reductions over standard one-shot seeding using only aggregated data. An empirical implementation uses Facebook’s Social Connectedness Index.

“The Effects of Media Sentiment on Sales: Evidence from the Soft Drinks Industry” (with Sumedha Rajbanshi)

Using natural language processing to analyze media coverage of Coca-Cola and PepsiCo, we estimate how sentiment towards the firm affects product sales. Lagged sentiment significantly predicts sales volume, with stronger effects for products bearing the firm name.

CONFERENCES AND WORKSHOPS

Santa Fe Institute Graduate Workshop in Computational Social Science

May 2026

RESEARCH EXPERIENCE

Research Assistant, George Gayle, Washington University in St. Louis

Fall 2024–Fall 2025

Research Assistant, Brent Hickman, Washington University in St. Louis

Fall 2023–Fall 2024

TEACHING EXPERIENCE

Introduction to Microeconomics

Spring 2025, Spring 2026

Teaching Assistant for Prof. Brian W. Rogers

Behavioral and Experimental Economics

Fall 2023, Fall 2024, Fall 2025

Teaching Assistant for Prof. Brian W. Rogers and Molly Moore

Taught bi-weekly experimental component independently

Intermediate Microeconomics

Spring 2024

Teaching Assistant for Prof. M. Bumin Yenmez

Warfighting Instructor, The Basic School, USMC

Fall 2020–Spring 2022

Taught a wide variety of subjects to newly commissioned officers in the Marine Corps. Classes ranged from land navigation and patrolling operations in the field to military leadership and ethics in the classroom. Included formal Instructor Education Program training.

MILITARY SERVICE

Captain, United States Marine Corps

2016–2022

Served seven years in active duty leadership roles primarily in Asia and Oceania.

Awards: Navy and Marine Corps Commendation Medal, Joint Service Achievement Medal, Navy and Marine Corps Achievement Medal, National Defense Service Medal, Korea Defense Service Medal, Global War on Terrorism Service Medal, Sea Service Deployment Ribbon (Star in lieu of second award)

SKILLS

Programming: R, Python, Stata, MATLAB, zTree, oTree

Research Methods: Economic Modeling, Applied Microeconomics, Network Analysis, Applied Econometrics, Structural Estimation, Machine Learning, Natural Language Processing, Experimental Economics, Field Research, Program Evaluation

REFERENCES

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