PHILIP SOLIMINE

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EXPERIENCE

Vancouver School of Economics, The University of British Columbia 2022-
Postdoctoral Fellow

Department of Economics, Florida State University 2017-2022
Charles & Persis Rockwood Research Fellow
L. Charles Hilton Fellow (2020-2022)

XS/FS Experimental Social Sciences Laboratory 2015-2017
Research Associate

EDUCATION

Florida State University

PhD / MS, Economics and Scientific Computing 2022
Dissertation: *Economic behavior in dynamic networks*
Concentration: Consumer behavior in market platforms, social networks, and the digital economy
Committee: Matthew Gentry, Luke Boosey, R. Mark Isaac, Cynthia Yang, Anke Meyer-Baese

Thesis: *Optimal control for networked metrics*
Concentration: Graph theory and control-theoretic approaches to economic network analysis
Committee: Anke Meyer-Baese, Max Gunzburger, Paul Beaumont

MS, Economics 2018
BA / BS, Mathematics and Economics 2016

PUBLICATIONS AND WORKS-IN-PROGRESS

Publications

1. Solimine, P. and Isaac, RM. (2023). Reputation and market structure in experimental platforms. *Journal of Economic Behavior & Organization*, 205, 528-559. Elsevier.

2. Solimine, P. and Meyer-Baese, A. (2022). Input design for the optimal control of networked moments. *Proceedings of the 61st IEEE Conference on Decision and Control (CDC)*. 5894-5901. IEEE.

Pre-Doctoral Publications

3. Dunkle, B., Isaac, RM., and Solimine, P. (2022). The robustness of lemons in experimental markets. *Experimental Law and Economics.* Research in Experimental Economics, Vol. 21, Emerald.

4. Solimine, PC. (2021). Network controllability metrics for corruption research. *Corruption Networks.* Understanding Complex Systems. Springer.

5. Solimine, PC. (2020). Political corruption and the congestion of controllability in social networks. *Applied Network Science* (Vol. 5, p. 23). Springer.

6. Tahmassebi, A., Mohebali, B., Meyer-Baese, L., Solimine, PC., Pinker, K., Meyer-Baese, A. (2019). Determining driver nodes in dynamic signed biological networks. *Proceedings of the SPIE: Smart Biomedical and Physiological Sensor Technology XV* (Vol. 11020, p. 110200A). SPIE.

7. Tahmassebi, A., Mohebali, B., Solimine, PC., Meyer-Baese, U., Pinker, K., Meyer-Baese, A. (2019). Model reduction of structural biological networks by cycle removal. *Proceedings of the SPIE: Smart Biomedical and Physiological Sensor Technology XV*. (Vol. 11020, p. 110200K). SPIE.

Selected Works in Progress

· **Resource sharing on endogenous networks** (with Luke Boosey)

Developing econometric tools for estimation and identification of incentives in dynamic network games. Analyzing reliability of panel estimators of network formation. Applying these techniques to experimental data to learn about non-monetary behavioral incentives in network formation.

· **Barriers to entry and dynamic community structure** (with Angelo Mele and Micah Pollak)

Exploring the relationship of playtime and skill dynamics with social network evolution in a popular PC video game. Leveraging a massive dataset of user behavior patterns in a large, dynamic social network. Combining novel estimation tools with machine learning methods to learn player tendencies from panel network data, and conducting counterfactual investigations of policy and pricing interventions.

· **Network-moderated regulatory distortion in natural resource markets** (with Jesse Perla and Paul Schrimpf)

Working with government regulators to analyze market power in networked industries with transmission rights. Investigating the relationship between price regulation and development investment incentives in regulated utilities markets, and particularly the natural gas pipeline network. Understanding how these incentives impact pipeline network resilience and reliability.

· **Viral dynamics and coordinated pricing in digital platforms** (with Matthew Gentry)

Estimating price sensitivities, price dispersion and consumer dynamics on large platform markets for PC gaming. Applying tools from computer vision and data mining to decompose game-level heterogeneity and network effects into independent factors. Documenting a novel pattern, in which firms can design pricing strategies that use temporary promotions to create lasting demand. Developing a structural econometric model to characterize firm pricing strategy in competitive video game markets characterized by a small number of highly central firms.

· **Regulating adversarial discord in social networks** (with Wei Li and Jesse Perla)

Continuing my line of published work that applies control theoretic methods to social science problems and understanding social network manipulation. Characterizing the incentives of platforms in regulating the spread of misinformation. Developing tools to counter social network manipulation.

TEACHING

University of British Columbia

ECON 622 Computational Economics (PhD) (instructor)	2023-
ECON 526 Mathematics for Economics (MA) (instructor)	2023-
ECON 323 Quantitative Economic Modeling and Data Science (instructor)	2022-

Florida State University

ECO 4400 Games and Decisions (instructor)	2020 (online), 2021
ECO 2023 Principles of Microeconomics (instructor)	2019
ECO 5434 Analysis of Economic Data for M.S. Applied Economics (guest lecturer)	2022

AWARDS & GRANTS

· Postdoctoral Fellowship, Vancouver School of Economics	2022-
· Charles & Persis Rockwood Doctoral Research Fellowship	2017-2022
· L. Charles Hilton Center Research Fellowship	2020-2022
· FSU Open Access Publishing Grant	2020
· L. Charles Hilton Center Summer Research Fellowship	2019-2021
· FSU College of Social Sciences and Public Policy Research Support Grant	2019

PROFESSIONAL SERVICE

Conference Talks and Presentations

- **2023**: International Industrial Organization Conference; UBC Econometrics Group
- **2022**: IEEE Conference on Decision and Control, UBC Econometrics Group (invited); Conference of Network Science in Economics (×2); FSU Computational Xposition; FSU Quantitative Methods Group; FSU Microeconomic Theory Group
- **2021**: Conference of Network Science in Economics; Economic Science Association Job-Market Candidates Seminar; North American Meeting of the Economic Science Association; Networks 2021 (NetSci and Sunbelt); Conference of the Southern Economic Association; FSU Experimental Group
- **2020**: NetSci 2020 (invited); Network Science in Economics; Global Meeting of the Economic Science Association; FSU Computational Xposition; FSU Experimental Group
- **2019**: Caltech Symposium in Honor of Charles R. Plott (invited); Conference of the Southern Economic Association; NetSci 2019; FSU Experimental Group

Referee

- International Journal of Industrial Organization (×4)
- Journal of Economic Behavior & Organization
- Economics Letters

SKILLS & TECHNICAL EXPERTISE

Programming Languages	Python, C/C#/C++, Julia, R, Matlab
Software & Tools	JAX, TensorFlow, OpenMP, MPI, Unity, Stata, UNIX/Linux Pytorch, Numba, zTree, oTree
Technical Applications	Machine learning, Structural econometrics, Simulation, High-performance computing, Game & experiment design, System administration, Neurocomputing, Computer vision Artificial intelligence, Reinforcement learning, Optimization
Spoken Languages	English (Native), German (Working)

PROFESSIONAL REFERENCES

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