

## **Tyler Porter**

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Department of Economics  
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## **Education**

PhD Economics, Cornell University, 2015-2021  
MA Economics, Cornell University, 2018  
BA Mathematics and Economics, Kent State University, 2015, Summa Cum Laude

## **Employment**

Wesleyan University Assistant Professor of the Practice, 2024-Present  
Wesleyan University Visiting Assistant Professor of Economics, 2023-Present  
Amherst College Visiting Assistant Professor of Economics, 2021-2023

## **Fields of Specialization**

Primary: Game Theory, Mathematical and Computational Economics  
Secondary: Industrial Organization, Networks

## **Working Papers**

"Evolutionary Stability and Tenable Strategy Blocks" (Joint with Peter Wikman) (Revisions Submitted: Economic Theory)

**Abstract:** We analyze relationships between evolutionary stability and the tenable strategy blocks of Myerson and Weibull (2015). In finite two-player games, we prove that strategies robust against equilibrium entrants (Swinkels, 1992) are fully settled in the sense of Myerson and Weibull. Based on this, we propose new evolutionary stability concepts that characterize tenable strategy blocks directly. These characterizations are formulated solely in terms of primitives without relying on tenability's meta game framework, simplifying the application of tenability and comparisons with other concepts. For instance, we prove that every coarsely tenable block contains a strategically stable set (Kohlberg and Mertens, 1986). Finally we show that in finite and symmetric two-player games, established evolutionary stability notions imply a symmetric variant of coarse tenability.

"Monitoring in Selfish Routing Games"

**Abstract:** I consider a model of nonatomic selfish routing with agents of different types and a network operator. In particular, I suppose that some fixed fraction of the commuters are either in violation of a traffic contract or are unwanted by the network operator, who in turn has the ability and authority to impose additional costs via fines on these types of agents. This model is motivated by several situations that arise in transportation systems. The primary applications are in fare evasion in public transportation networks, the location of mobile weigh stations for the monitoring of freight transportation, and the location of law-enforcement for traffic violations. In this paper, I characterize properties of equilibria in terms of the potential externalities that can arise as a result of the inclusion of fines in the presence of heterogeneous agents. A discussion of the network topologies in which the inclusion of a revenue maximizing network operator cannot harm those not subject to fines at an equilibrium follows.

"Computational Aspects of Block Concepts" (Joint with Peter Wikman)

**Abstract:** We consider the computational complexity of a number of problems relating to block-valued equilibrium concepts in bimatrix games. In particular, we consider (1) the problem of verifying whether a given block satisfies a given solution concept (2) the problem of verifying whether a given block is  $\textit{minimal}$  under a given solution concept and (3) the problem of finding a single minimal block of a given solution concept in a game. Throughout, we discuss the relationship between the restrictions of each concept in both arbitrary and generic games.

"Contracting for Attention Intermediaries"

**Abstract:** I develop a tractable parametric model of competition among attention intermediaries that design simple limited liability contracts to incentivize the production of high-quality content on their platform in the face of moral hazard. I use an attention-based model of consumer viewership in which advertising takes a distortionary form. Each platform serves as an intermediary between content and consumers. The focus of the analysis is on the effects of exclusivity on consumer welfare.

## **Work in Progress**

"On the Computation of Game Theoretic Solutions: Applications of the Positivstellensätze"

**Abstract:** This project considers a number of solution concepts in game theory that can either be expressed as semialgebraic sets or in which verification requires checking non-emptiness of a semialgebraic set. I aim to use semidefinite programming relaxations (a now common approach to many related problems) to determine whether these methods prove useful in the computation of equilibrium refinements, as well as whether the specific structure of a refinement can be exploited to improve the optimization.

"Multi-Round Contests with Incentive Provision" (Joint work with Alesandro Arcuri)

**Abstract:** We consider a model of multi-battle team contests in which competing principals provide incentives to their respective players in order to improve their probability of winning. The framework allows for an analysis using the literature available on winner-pay contests. We characterize equilibrium contracts in the case of moral hazard and limited liability.

"Contracts and Disagreement: A Boolean Approach"

**Abstract:** This project analyzes the problem of investment and information acquisition in an environment where each agent's payoffs are determined by a state of the world represented by a boolean formula. Agents sequentially test variables to determine the likelihood that the realized state is a satisfying assignment of their formula. I consider how each player's collection of satisfying assignments relates to the probability that both players eventually invest, as well as how the agreed upon sequence of tests differs depending on disclosure requirements.

## **Teaching Experience:**

### **Wesleyan University**

Instructor, ECON 214: Introduction to Economic Networks; [Fall 2023](#), [Fall 2024](#)

Instructor, ECON 103: Intro Probability and Statistics for Economic Analysis; [Fall 2023](#) [\(01\)](#) [\(02\)](#), [Spring 2024](#) [\(01\)](#) [\(02\)](#), [Fall 2024](#) [\(01\)](#) [\(02\)](#)

Instructor, ECON 102: Mathematical Tools for Economic Analysis; [Fall 2023](#) [\(01\)](#) [\(02\)](#), [Spring 2024](#) [\(01\)](#) [\(02\)](#), [Fall 2024](#) [\(01\)](#) [\(02\)](#)

### **Amherst College**

Instructor, ECON 224: Introduction to Economic Networks; [Fall 2021](#), [Spring 2022](#), [Fall 2022](#), [Spring 2023](#)

Instructor, ECON 111: An Introduction to Economics; [Fall 2021](#), [Spring 2022](#), [Fall 2022](#), [Spring 2023](#)

Instructor, ECON 290: Special Topics in Behavioral Economics; [Spring 2023](#)

### **Cornell University**

TA, ECON 6110: Microeconomic Theory 3; [Spring 2021](#)

TA, ECON 6170: Intermediate Mathematical Economics 1; [Fall 2020](#)

TA, ECON 1110: Introductory Microeconomics; [Fall 2016](#), [Spring 2017](#), [Winter 2019](#), [Summer 2019](#)

TA, ECON 3801: Introduction to Game Theory and Strategic Thinking; [Fall 2017](#)

Instructor, MATH 1110: Calculus 1; [Fall 2018](#)

TA, MATH 2130: Calculus 3; [Spring 2018](#), [Spring 2019](#)

TA, MATH 3110: Introduction to Analysis; [Fall 2017](#)

TA, AEM 1200: Introduction to Business Management; [Summer 2019](#), [Summer 2020](#)

## **Awards and Honors**

Howard and Abby Milstein Graduate Teaching Assistantship ([Fall 2020](#))

Ernest Liu Family Outstanding Teaching Award ([Fall 2019](#))

Sage Fellowship, Cornell University ([2015-2016](#)), ([2019-2020](#))

Phi Beta Kappa, Kent State University

University Honors, Kent State University ([2015](#))

Undergraduate Honors Thesis Fellowship ([2014](#))

## **Programming/Computational Tools**

Matlab/Octave, Mathematica, SAS, Stata, Python, LaTeX

**References (Research)**

Prof. David Easley  
Prof. Eva Tardos  
Prof. Lawrence Blume  
Prof. Tommaso Denti

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**References (Teaching)**

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