liad wagman

Education

2008 **PhD in Economics** (4.0/4.0), *Duke University*, Durham, NC.
2005 **MA in Economics** (4.0/4.0), *Duke University*, Durham, NC.
2004 **MS in Computer Science** (3.7/4.0), *Stanford University*, Stanford, CA.
2002 **BS in Computer Science** (4.0/4.0), *University of North Carolina*, Charlotte, NC.
2002 **BA in Mathematics** (4.0/4.0), *University of North Carolina*, Charlotte, NC.

Research and work interests

Economics of information technology, e-commerce, industrial organization

Doctoral Dissertation

title *Essays in Economics of Information Technology*

committee Curtis Taylor (co-chair), Vincent Conitzer (co-chair), Atila Abdulkadiroglu, Daniel Graham, Giuseppe Lopomo, Huseyin Yildirim

description My dissertation explores the social impacts of competition, anonymity, and privacy policies in online environments within a game-theoretic framework. In the first essay, I analyze optimal betting behavior when agents are competing to obtain the highest outcome. In the second essay, I construct voting mechanisms which deter voters from casting multiple votes, while maximizing responsiveness to votes. In the third essay, I prove that the absence of online privacy can be beneficial for consumers in part and for society overall, but that such absence is unlikely to result in equilibrium.

Dissertation papers

2008 *Paying for Anonymity: Privacy, Price Discrimination, and the Value of Anonymous Transactions* (job market paper)

We analyze a model with heterogeneous consumers, where consumers are able to circumvent being identified as past customers (or to "opt out" from being tracked), possibly at a cost. We show that counter to intuition, consumers are better off overall when opting out is very costly, while firms prefer opting out to be free. The existence of a privacy gatekeeper (e.g., Google Checkout, virtual credit cards, *etc.*) reduces social welfare by making it easier for consumers to opt out. We show that online privacy policies proposed by the Federal Trade Commission may result in reduced welfare.

2007 *Optimal False-Name Proof Voting Rules with Costly Voting* (with Vincent Conitzer), in the proceedings (with distinction) of the 23rd International Conference on Artificial Intelligence, winner of the *AAAI08 Outstanding Paper* award

One way for agents to reach a joint decision is to vote over the alternatives. In open, anonymous settings such as the Internet, an agent can vote more than once without being detected. A voting rule is false-name-proof if no agent ever benefits from casting additional votes. We characterize optimal (most responsive) false-name-proof voting rules in various situations, while offering simulations and limit analysis.

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2007 *Strategic Betting for Competitive Agents* (with Vincent Conitzer), in the proceedings of the 7th International Conference on Autonomous Agents and Multiagent Systems. Journal version: *Choosing Fair Lotteries to Defeat the Competition* (under review)

In many multiagent settings, each agent's goal is to come out ahead of the other agents on some metric, such as the currency obtained by the agent. In principle, given this objective, the game can be solved using game-theoretic techniques. However, most games of interest are far too large and complex to solve exactly. To get some intuition as to what an optimal strategy in such games should look like, we introduce a simplified framework that captures some of their key aspects, and solve it exactly.

Invited talks

2008 23rd International Conference on Artificial Intelligence, Chicago, Il
7th International Conference on Autonomous Agents and Multiagent Systems, Estoril, Portugal
2008 GAMES World Congress of the Game Theory Society, Evanston, IL

2007 18th Victor Rothschild Symposium in Economic Theory, Jerusalem, Israel

Research experience

2008 **Research Assistant**, *Dr. Curtis Taylor*, Economics Dept, Duke University.
- Studied the implications of online privacy policies on consumer welfare and firm profits through price discrimination in e-commerce

2008 **Research Assistant**, *Dr. Vincent Conitzer*, Comp Sci Dept, Duke University.
- Studied the issues created by anonymity in online elections and ways to design voting mechanisms to account for such issues
- Studied competitive betting behavior in R&D and patent races

2004 **Research Assistant**, *Dr. Dean Wilkening*, Center for International Security and Cooperation, Stanford University.
- designed and developed software used in the simulation of ballistic missile defense and hazard/epidemic prediction and assessment systems

2003 **Research Assistant**, *Dr. Marcus Feldman*, Morrison Institute of Biological Research, Stanford University.
- designed and implemented an efficient DNA aligner that functions under worst-case complexity O(k*n), where n is the length of a DNA sequence and k is a relative-to-n small number

2003 **Research Assistant**, *Dr. Miriam Reiner*, Morrison Institute of Biological Research, Stanford University.
- conducted MRI experiments to determine the degree by which the visual cortex is stimulated when a blindfolded person touches objects of various shapes, textures, and density. Analytical tools were used to run regressions on the collected data

Professional service

Refereed papers for the Journal of Artificial Intelligence Research (JAIR), the International Conference on Artificial Intelligence (AAAI), and the ACM Conference on Electronic Commerce (EC)

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Entrepreneurial experience

2005-2008 **Chief Operating Officer, Co-Founder**, *FightersOnline, Inc.*, Las Vegas, NV.
FightersOnline is a startup focused on revolutionizing the sports industry, beginning with boxing and mixed martial arts. FightersOnline's patented system enables its clients to match with other clients, compose fight tickets, auction tickets to promoters, and broadcast to fans. Using its patented technology, FightersOnline derives unique fight data, such as the acceleration curves of kicks and punches. The FightersOnline platform provides a unique experience to fans, and a 21st century market to fighters.

2004-2005 **Founder**, *Elitegrad*, Stanford, CA.
EliteGrad is an entrepreneurial project focused on the efficient allocation of human-resources. EliteGrad's goal is to match successful undergraduate and graduate students from top universities to top employers.

2003 **Software Engineer**, *Opensource, Inc.*, Menlo Park, CA.
- Work involved the design and implementation of data mining techniques used by law firms to search and compare enormous volumes of text. Designed and developed an efficient Nearest Neighbor algorithm via a clustering application to maintain clusters of over 55,000 contracts, with a constant lookup complexity and O(nlogn) preprocessing complexity. Implemented an efficient sparse matrix algorithm to detect and rate similarity between large documents

Teaching experience

2006–2008 **Head Teaching Assistant**, *Duke University*, Durham, NC.
Head teaching assistant for undergraduate intermediate microeconomics. Over the course of four semesters, supervised 40 teaching assistants, 12 graders, and approximately 800 students. Managed lectures, discussion sections, office hours, problem sets, exams, grading, grade submissions, and tutoring assignments

2006 **Instructor**, *Duke University*, Durham, NC.
Instructor for undergraduate advanced microeconomics

2005 **Instructor**, *Duke University*, Durham, NC.
Instructor for a qualifier preparation course, which readies a class of rising second-year PhD students for their qualifying exams

2005 **Head Teaching Assistant**, *Duke University*, Durham, NC.
Head teaching assistant for PhD level game theory course

2005 **Head Teaching Assistant**, *Duke University*, Durham, NC.
Head teaching assistant for PhD level microeconomics course

2001 **Teaching Assistant**, *University of North Carolina*, Charlotte, NC.
Teaching assistant for masters level real analysis and differential equations course

Skills

Computer C, C++, PERL, Java, LaTeX, MatLab, Stata, Scientific Workplace, Microsoft Office

Languages Fluent in English and Hebrew, novice in Arabic

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Awards and organizations

2008 Program for Advanced Research in Social Sciences distinguished fellowship
Fellow at the Social Sciences Research Institute, Duke University
AAAI08 Outstanding Paper (awarded to 2 papers out of 937 submissions)
Conference on Autonomous Agents and Multiagent Systems grant
International Conference on Artificial Intelligence grant
Duke University travel grant
Duke University summer research fellowship

2007 Hebrew University, Center for Rationality, Victor Rothschild Symposium grant
Duke University Distinguished Award for Outstanding Teaching Assistant
Duke University travel grant
Duke University summer research fellowship

2004 Duke University Department of Economics fellowship
Duke University 5-year scholarship

2003 Stanford University research fellowship

2002 University of North Carolina VP of student affairs
National Honor Society VP of community service
Sigma Nu Fraternity, IX Chapter, scholarship chair
Outstanding Senior of the Computer Science Department
Member of the Omega Order, Phi Kappa Phi, Golden Key, and NHS societies

References

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