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Previous Degrees:

M.Sc., Mathematics, Tel Aviv University, Summa Cum Laude, 2007
B.Sc., Mathematics, Tel Aviv University, Summa Cum Laude, 2005

Graduate Studies:

Harvard University, 2007 to present
Thesis Title: "Essays on Matching Markets"
Expected Completion Date: May 2012

References:

Professor Alvin Roth
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Professor Susan Athey
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Professor Ariel Pakes
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Professor Drew Fudenberg
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Teaching and Research Fields:

Primary: Microeconomic Theory, Market Design
Secondary: Game Theory, Industrial Organization, Behavioral Economics, Experimental Economics

Teaching Experience:

Spring 2009, 2011	Graduate Microeconomics, Harvard University
	Teaching Fellow for Professor Oliver Hart and Professor Jerry Green
Fall 2009	Graduate Market Design, Harvard University
	Teaching Fellow for Professor Alvin Roth

Research Experience, Fellowships and Awards:

2011	Roger Martin Award for Excellence in Doctoral Research, HBS
Summer 2010	The Russell Sage Foundation Summer Institute in Behavioral Economics
Summer 2009	Summer Intern, Yahoo! Research
2007 - present	Doctoral Fellowship, Harvard Business School
2006	School of Economics Excellence Scholarship, Tel Aviv University
2005 - 2007	Researcher, IBM Research Labs

Conferences and Invited Talks:

Invited session at the American Economic Association Meeting, Chicago, January 2012 (scheduled)
EconCon, New York, August 2011
Stony Brook Game Theory Festival, July 2011
SED Conference on Economic Design, Montreal, June 2011
ACM conference on Electronic Commerce (EC), San Jose, June 2011
MFI conference on matching and price theory, University of Chicago, May 2011
International Industrial Organization Conference, Boston, April 2011
Technion - Israel Institute of Technology, December 2010
Tel Aviv University, December 2010
Brown University, November 2010
Brazilian Workshop of the Game Theory Society, Sao Paulo, August 2010
Risk, Uncertainty, and Decision, Tel Aviv, June 2007

Research Papers:

"***Dynamic Matching in Overloaded Systems***" (*Job Market Paper*)

In many assignment problems items arrive stochastically over time. When items are scarce, agents form an overloaded waiting list and items are dynamically allocated as they arrive; two examples are public housing and organs for transplant. Even when all the scarce items are allocated, there is the efficiency question of how to assign the right items to the right agents. I develop a model in which impatient agents with heterogeneous preferences wait to be assigned scarce heterogeneous items that arrive stochastically over time. Social welfare is maximized when agents are appropriately matched to items, but an individual impatient agent may misreport her preferences to receive an earlier mismatched item. To incentivize an agent to avoid mismatch, the policy needs to provide the agent with a (stochastic) guarantee of future assignment, which I model as putting the agents in a priority buffer-queue. I first consider a standard queue-based allocation policy and derive its welfare properties. To determine the optimal policy, I formulate the dynamic assignment problem as a dynamic mechanism design problem without transfers. The resulting optimal incentive compatible policy uses a buffer-queue of a new queueing policy, the uniform wait queue, to minimize the probability of mismatching agents. Finally, I derive a policy which uses a simple rule: giving equal priority to every agent who declines a mismatched item (a SIRO buffer-queue). This policy is optimal in a class of robust mechanisms and has several good properties that make it a compelling market design policy recommendation.

"*A Supply and Demand Framework for Two-Sided Matching Markets*", with Eduardo Azevedo

(Extended abstract published in EC11 under the former name: "*The college admissions problem with a continuum of students*")

In many two-sided matching markets, including college admissions, agents on one side are matched to a large number of agents on the other side. Yet little is known about the structure of stable matchings when there are many agents on one side. To approach this question, we propose a variation of the Gale and Shapley (1962) college admissions model, in which a finite number of colleges are matched to a continuum of students. We show that, generically (though not always) (i) there is a unique stable matching, (ii) this stable matching varies continuously with the underlying economy, and (iii) it is the limit of the set of stable matchings of approximating large discrete economies.

"*Can We Make School Choice More Efficient?*", with Eduardo Azevedo

The deferred acceptance mechanism, currently used in the New York City and in the Boston public school systems, can produce Pareto-dominated assignments. When students are non-strategic, an efficient mechanism that Pareto dominates deferred acceptance can be achieved by allowing some students to trade schools (Erdil and Ergin (2008) and Kesten (2010); Abdulkadiroglu (2010)). However, when students are strategic, these mechanisms may make all students worse off and the equilibrium assignment may be unstable. We show this by using a model with a continuum of students that allows for tractable equilibrium analysis. Our results hold for arbitrarily large markets.

"*Will a Decrease In The Minimal Wage Improve Training?",* with Michael Schwarz

Why do firms provide general skill training? The previous literature showed that firms will provide training in imperfect markets to gain informational rents. We show that even when labor markets are perfectly competitive, a firm with a cost advantage can provide training by means of a self-enforcing contract. The firm recovers the cost of training by gradually training the worker over time, paying a wage below the worker's marginal product and providing the remaining compensation in the form of training. The speed of training is limited by minimum wage laws that limit the worker's ability to pay for training. When the minimum wage is close to the worker's product, the impatient firm will find it efficient to front-load a gift of training to the worker. While the firm does not receive direct payments for the front-loaded training, this early training makes the worker more productive faster, allowing the worker to pay faster for the rest of the training. A reduction in the minimum wage increases the worker's ability to pay and substitutes away front-loaded training. We conclude that a reduction in the minimum wage always makes firms better off, but may reduce the overall efficiency of training provision.

"*Probabilities as Similarity-Weighted Frequencies in Presence of Irrelevant Observations*"

I characterize how a decision maker forms his beliefs from a database of past observations, extending the axiomatization of Billot, Gilboa, Samet and Schmeidler (2005) by endogenizing the selection of relevant observations. The decision maker forms his belief by similarity-weighted average of the beliefs induced by each relevant past case, giving irrelevant observations an infinitesimal ("almost" zero) weight. We find that this process of belief formation generates the lexicographic probabilities of Blume, Brandenburger, and Dekel (1991). In my model, a doctor considering treatments for a patient suffering from laryngeal cancer will consider relevant only past observations of laryngeal cancer, unless those do not allow him to come to a decision, in which case he would consider past observations of, say, leukemia.

Research Papers in Progress

"*Matching with Aggregate Peer Preferences*"

I examine a college admission model where students' preferences over colleges depend on the composition of their peers. When preferences depend on the assignment of individual peers, a stable match need not exist; a particular case is matching with couples. In a model where there are a continuum of students (extending Azevedo and Leshno 2010) and preferences depend only on aggregate composition statistics, a stable matching always exists. The proof relies on the characterization of stable matchings as outcomes of a decentralized market where colleges post admission thresholds and students hold correct expectations. The equilibrium ranking of a college results from the intrinsic preferences for the college and from the coordination game between students.

"*Large Market Asymptotics as Proxies For Cognitive Difficulty: Experimental Evidence from Multi-unit Assignment*" , with Clayton Featherstone

Several recent papers have shown that non-strategy-proof mechanisms that work well in practice are only non strategy-proof because of manipulations whose profitability disappears in the large market limit. We suggest that these asymptotic results can help predict agent's behavior even in small markets, letting the asymptotic profitability of a manipulation serve as a proxy for the cognitive difficulty of manipulating. If the profitability of a manipulation asymptotically vanishes, we say it is "hard"; otherwise, it is "easy". We predict that, holding profitability equal, agents would employ "easy" manipulations but would miss "hard" manipulations. We test our hypothesis in the lab in the context of multi-unit assignment by using a random serial dictatorship that goes through the dictatorship ordering multiple times. Such mechanisms are susceptible to both "easy" and "hard" manipulations. When truth-telling is a dominant strategy, we see truth-telling, and when the equilibrium manipulation is "easy", we see that manipulation. However, when the equilibrium manipulation is "hard" agents manipulate in an erratic way that is difficult to explain with standard theory. Hence in our context, agents are less likely to manipulate if the gains vanish asymptotically, but they do not necessarily revert to truth telling.

"*Markets for Commitment*"

Economists argue that commitment products can increase welfare when agents are time inconsistent. Despite the potential gains, firms often fail to offer contracts with commitment, leading economists to step in and offer commitment products. I set up a model where firms in a competitive market choose whether to provide contracts with different levels of flexibility and find that firms may choose not to offer commitment contracts in equilibrium. Flexible contracts that exploit naïve agents allow sophisticated agents to free ride. Firms do not offer commitment because the sophisticated agents prefer to pool with the naïve agents rather than take a commitment contract at a price that makes the firm break even.