Indira Puri
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Application for: NBER Behavioral Macroeconomics Boot Camp
Reference: Robert Townsend

Indira Puri
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919-593-2112

Education

Massachusetts Institute of Technology in Cambridge, Massachusetts *Expected 2023*
PhD Candidate, Economics.
Awards: Fellow, Paul and Daisy Soros Fellowship for New Americans. National Science Foundation Graduate Research Fellow.
Research: theory, behavioral economics, household finance.

Stanford University in Stanford, California *2014-2017, 2018-19*
MS, Computer Science, with specialization in theory. (Awarded 2019)
BAS, Mathematics, Economics. (Awarded 2017)
Positions: Graduate Chair, Stanford Women in Computer Science. President, Stanford Chess; member, Stanford Debate Society; Equity Officer, Stanford Debate Tournament. Member, Stanford Noopur. Won debate and chess recognition for Stanford at the national level. Created an outreach program for the Chess Club.
Awards: Firestone Medal Recipient for writing a best thesis across the School of Humanities & Sciences. J.E. Wallace Sterling Award for Scholastic Achievement (top 25 graduating students in School of Humanities & Sciences). Phi Beta Kappa, initiated Junior year (top 2% of class). Rhodes Scholarship Finalist.
GPA: 4.1/4.0 (A+ : 4.3 ; A: 4.0).

Gap year in which worked at Center for Advanced Hindsight at Duke and worked on curriculum reform with the nonprofit Agastya Foundation in Bangalore, India *2013-2014*

Harvard University in Cambridge, Massachusetts *2012-2013*
Bachelor of Arts Candidate, Economics; Secondary in Mathematical Sciences
Awards: Harvard Detur Prize for outstanding academic achievement; John Harvard Scholar (top 5% of class); Harvard Kate and Max Greenman Debate Medal. Won, as part of a team, Harvard the 2013 Pan-American Intercollegiate Chess Championships U2000 section; won, as part of a team, Harvard the Joel Benjamin Cup (annual chess competition between Harvard and Yale). Placed at debate tournaments held at a national level.
Positions: Recruitment Officer of the Harvard Chess Team, award-winning member of Harvard Speech and Parliamentary Debate Society, President of Harvard South Asian Dance Association, World in Review Editor, Harvard International Review. Member, Harvard Federal Reserve Challenge Team.
GPA: 4.0/4.0. Transferred to Stanford.

Courses

PhD (MIT)
Topics in Game Theory (14.147)
Time Series (14.384)
Advanced Macroeconomics I (14.461)
Introduction to Asset Pricing (14.416)
Game Theory (14.416)
Decision Theory (Harvard Ec 2059)
Labor Economics (14.661)
Microeconomics I – IV (14.121, 14.122, 14.123, 14.124)
Macroeconomics I – IV (14.451, 14.452, 14.453, 14.454)
Econometrics (14.382)

Masters (Stanford)
Courses included: algorithmic analysis, machine learning, artificial intelligence, natural language processing, databases, systems coding, complexity theory, measure theory, stochastic processes

Research

Research Projects
PhD
Puri, Indira, 'Heuristic Play.' Work in progress.
Goodman, Aaron and Indira Puri, 'Overpaying for Binary Options: Preference for Simplicity in the Retail Markets.' Work in progress.
Puri, Indira. 'Preference for Simplicity.' July 2019. Working paper.

Undergraduate
Puri, Indira. 'Agent indifference in serial dictatorship variants: implications for resource-constrained institutions' (undergraduate thesis). May 2019. Mimeo.
Puri, Indira and Ariely, Dan. 'Signaling and Competition.' Mimeo. May 2015.
Puri, Indira. 'Can Cyprus maintain its large banking sector? The future of a financial hub.' *Harvard International Review*. Fall 2013. 35(2), 9-10.

Research Assistant
July 2018: to Professor Rob Townsend at MIT
June 2015-Aug 2015: to Professor Pete Klenow at Stanford University
Dec 2013-May 2014: at the Center for Advanced Hindsight run by Professor Dan Ariely at Duke University

Referee Service
Quarterly Journal of Economics, International Journal of Game Theory.

Academic Awards

Fellow, Paul and Daisy Soros Fellowship for New Americans (2019-2020)
Fellow, National Science Foundation, Graduate Research Fellowship Program (2017 – 2022)
Stanford University Firestone Medal (best thesis award) (2017)
Stanford University J.E. Wallace Sterling Award (top 25 graduating students) (2017)
Rhodes Scholarship Finalist (2017)
Stanford University Phi Beta Kappa, junior year inductee (top 2% of class) (2016)
Harvard Detur Prize for Outstanding Academic Achievement (2013)
John Harvard Scholar (2013)
United States Presidential Scholar (2012)
National Merit Finalist (2012)
National Merit Corporation Scholarship Recipient (2012)
U.S. State Department National Security Language Initiative for Youth Scholarship Recipient (2012)
A.P. Scholar (2012)
Cum Laude Society (2011)
Gold medal, National Latin Exam (2009)
Durham Academy: High Honors in Scholarship (2009, 2010, 2011, 2012)

Corporate Experience

D.E. Shaw in New York, New York
Trading Intern
June – August 2016
Conducted research and built models for the energy and macroeconomics groups. Assisted with analysis on trading ideas.

Securities and Exchange Commission in Washington D.C.
Division of Economic and Risk Analysis – Corporate Finance Intern
June-August 2014
Compiled, merged, and sorted data using SAS and Wharton WRDS for one project concerning stock analysts' career outcomes and another project about whether stockholders' approval of a management measure affects implementation of that measure.

J.P. Morgan Chase in Mumbai, India
Centralized Research Group Intern
June-August 2013
Performed basic benchmarking and research, updated transaction comps, wrote and sent three daily newspapers, one on Taiwan, one on Korea, one on Sub-Saharan Africa, to senior bankers at London and Tokyo locations. Wrote a buy-side book as part of a final project.

Positions Held

Graduate Chair, Stanford Women in Computer Science
2018-19
Organize events for the female graduate community.

President, Stanford Chess Team
2015-2016
Prepared club/team for and organized travel to national tournaments. Oversee weekly meetings where any member of the Stanford community can play or learn chess. Continued the outreach program to give free chess lessons to children that I founded as Vice President.

Vice President, Stanford Chess Team
2014-2015
Organized travel to Pan-American Chess Championships, implemented outreach program to expand access to chess education by giving free chess lessons to children in the surrounding area.

World in Review Editor, Harvard International Review
2013-2014
Coordinated and edited long-form writing for 30+ undergraduates for a publication that has a subscribership of 30,000+ in 78 different countries

President, Harvard South Asian Dance Company, 2013-2014
Recruitment Officer, Harvard Chess Team, 2013-2014
Captain, Durham Academy Chess Team, 2011-2012
Captain, Durham Academy Indian Dance Team, 2010-2012
Founder and President, Durham Academy Outreach Club, 2009-2012
Managing Editor, Durham Academy *Cavalier*, 2011-2012

Other Awards and Honors*

Competitive Debate (2008 – 2016):

Parliamentary Debate: 16th, Columbia; 9th place, Northeastern; 6th Novice Speaker, Boston University, 7th Novice Speaker, Northeastern University. Harvard Kate and Max Greenman Prize.
Congressional Debate: 1st place, Wake Forest University, 2nd place, George Mason University, 6th place, Yale Invitational, 6th place, University of Florida Blue Key Invitational, Finalist at National Forensic League National Tournament, Harvard University, and Catholic Forensic League National Tournaments. Qualifier to Tournament of Champions three years in a row; qualifier to National Forensic League National Tournament four years in a row. State Co-Champion (4th on tiebreaks); district champion three years running.
Extemporaneous speaking: 5th place, University of Florida Blue Key Round Robin, quarterfinalist at Yale Invitational, quarterfinalist at Tournament of Champions, qualifier to Extemporaneous Tournament of Champions, qualifier to National Forensic League National Tournament, district champion, Foreign Extemp.
Public Forum: 1st place, Laird Lewis Invitational (novice division)
Other: National Forensic League All-American Scholar; ranked with 'Premier Distinction' for 1,873 National Forensic League points, the highest point-based ranking given by the NFL; given a National Forensic League Scholarship for qualifying to Nationals for four years in a row (2016)

Competitive Chess:

3rd place, Pan-American Inter-Collegiate Team Chess Championship, U1800 (2014)
Won Pan-American Inter-Collegiate Team Chess Championship, U2000 (2013); per the then-president of Harvard Chess, it was Harvard's first national chess award since 1999
Ranked in 95th percentile for women nationwide and 95th percentile for age group, as of 2014 end
Won Joel Benjamin Cup (Harvard-Yale annual tournament)
Tied for 1st place, (4th on tiebreaks), Kasperov All-Girls Chess Championship, Girls 16 and under (2010);
three-time North Carolina Girls' State Chess Champion (2009, 2011, 2012); Susan Polgar Invitational for Girls Representative (2010); Champion, North Carolina Open Scholastic (2011); 8th place, North Carolina State Tournament (2009); 8th place, Southern Scholastic (2009); 11th place, North Carolina Open U1700 (2012); Western Invitational Chess Camp attendee (2010)
Represented Harvard at Harvard-Yale Match 2012; won game against Yale

Competitive Math/Science:

2nd place, Charleston Math Meet, Math Brainstorming (2010); 3rd place, Charleston Math Meet, Physics Brainstorming (2011); MIT/CalTech sponsored Summer Science Program (SSP) attendee, summer 2011. Program has 11% acceptance rate, is hosted on NM Tech campus. At SSP, determined orbit of near-Earth asteroid HF1 and submitted data to Harvard-Smithsonian Minor Planet Center.

Community Outreach

Chess

Dec 2014-June 2016: Founded Stanford Chess Club Outreach Program

Organizing a Stanford Chess Club initiative whereby neighboring public school students learn chess from Stanford members for free once per quarter.

March 2014: Worked with the nonprofit Agastya Foundation in south India to introduce children to strategic games

Re-structured Agastya's curriculum for its Kuppum campus curriculum, which provides supplemental education to 200 primary school children per year, to include the strategic game Connect Four; re-structured Agastya's Operation Vasantha curriculum, which provides supplemental education to nearly five hundred rural children annually, to include strategic games; volunteered to teach chess and other strategic games at both the Kuppum campus and as part of Operation Vasantha.

Aug 2010-May 2012: Founder and President of the Durham Academy Outreach Club

Set up chess program at Holy Angels ISC School in India, which included finding a chess teacher and convincing the principal of the school to integrate chess lessons into school program. Set up Outreach Club at high school to raise money for the chess program. Also funded program with my own earnings from teaching chess.

Teaching

Taught chess for free to elementary school girls at Durham Academy Lower School (Aug 2010 – June 2011)
Taught chess for free to students at the public school Estes Elementary School (Jan 2009 – June 2012)
Volunteered to teach math to students at a summer program at Chapel Hill High School (June 2010)
Taught a debate class to girls in Kerala, India (July 2011)

* Unless otherwise stated, awards listed are earned at the national or international level.

NBER Behavioral Macroeconomics Boot Camp
Statement of Purpose

Indira Puri
Dec 2019

I have theory projects about how individuals behave heuristically ('Preference for Simplicity', 'Heuristic Play') and empirical projects testing that theory ('Overpaying for Binary Options: Preference for Simplicity in Retail Markets'), and I would like to think about how to expand these theories, and other ideas, from individuals to households to the broader macroeconomy. Towards this end, I hope to attend the behavioral macro boot camp. Since I am a second-year PhD student in Economics at MIT, I should have enough time to incorporate what I learn in the boot camp into my research.

The remainder of this essay provides more information on my research projects. 'Heuristic Play' is a game theory project which extends Nash Equilibrium to games with `dumb' agents (precisely defined). It also provides both Bayesian and non-Bayesian learning foundations for Heuristic Equilibrium, a notion that my project introduces. The paper dissects what it means for a heuristic agent to be rational, and re-examines traditional game theoretic notions from the perspective of heuristic play. I show that this game theoretic heuristic play foundation captures a number of behavioral finance phenomena, among other applications, including style investing (Barbaris and Shleifer, 2003), scarred consumption (Malmendier and Shen, 2019), and reinforcement learning type patterns in investing (Choi et al 2009, Campbell et al 2014, among others). The non-Bayesian learning component draws on my computer science training, in which I have a masters degree.

'Preference for Simplicity' is a decision theory paper which axiomatizes and models an agent who prefers lotteries with fewer outcomes. It is motivated by experimental evidence; in particular, I argue that many of the studies supporting prospect theory in the lab allow for the alternative explanation that people prefer lotteries with fewer outcomes, and I also argue that experiments in the psychology and marketing literatures supports the existence of this phenomenon. 'Overpaying for Binary Options' examines the controversial retail binary options market, which was banned in both Europe and Israel a few years ago. The paper finds that investors routinely pay more for binary options than dominating standard option mixtures, consistent with a 'Preference for Simplicity' as defined in my earlier paper.

I may extend these projects to macroeconomic settings; 'Preference for Simplicity' has already been extended to an asset pricing setting. I also have other ideas which would fit well in a macroeconomic context. A common criticism of behavioral economics is that it does not have an effect at the macroeconomic level; I intend to challenge that contention, possibly by expanding my earlier micro-theoretic work.

Cited

Barbaris, Nicholas and Andrei Shleifer (2003). *Style Investing*. Journal of Financial Economics, vol. 68, pp. 161-199.

Campbell John Y., Ramadorai Tarun, Benjamin Ranish (2014) *Getting Better or Feeling Better? How Equity Investors Respond to Investment Experiences*. Working Paper.

Choi, James J., Laibson, David, Madrian, Brigitte C. and Andrew Metrick (2009). *Reinforcement Learning and Savings Behavior*. The Journal of Finance, 64: 2515-2534

Malmendier, Ulrike and Leslie Sheng Shen (2019). *Scarred Consumption*. International Finance Discussion Papers 1259.

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December 6, 2019

To Whom It May Concern,

I am very happy to recommend Indira Puri for the NBER Behavioral Macroeconomics Research Boot Camp.

I have been interacting with Indira for two years and have an extremely high opinion of her. She was a student in my first year graduate class on micro theory (course 14.121) where she performed quite well and got my attention. Even there, in her first year, we were engaging in research questions. This was followed by several types of activities over the following summer: We met to discuss her research ideas, trying them out at an early stage, which I liked, and then we started developing a couple of ideas for joint research to test for limited attention and simplicity in the selection of financial contracts.

I must say Indira is an unusually focused student. She knows what she wants to do in research and she also wants to get the training she needs to accomplish her goals. So she returned to Stanford in what would have been her second econ year at MIT to complete a Masters in Computer Science, with specialization in theory, which she had begun as a senior at Stanford. I encouraged her in this choice. She is back here now in field courses and is interacting with several faculty. She is building up her theory micro behavior as a better foundation for macro economics. I am acting as advisor to her even though at MIT advisors are not formally chosen until the third year.

To sum up, I cannot imagine a better choice for this Boot Camp activity – a perfect match with a very smart student.

Sincerely,

Robert Townsend