

Matheus Venturyne Xavier Ferreira

PERSONAL DATA

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RESEARCH INTERESTS

I'm broadly interested in Economics and Computation and the interplay of Algorithms, Game Theory, Information Security, Fairness and Policy.

EDUCATION

	Princeton University , Princeton, NJ, USA.	
2021	Ph.D in COMPUTER SCIENCE. Advisor: S. Matthew Weinberg.	
2018	M.A. in COMPUTER SCIENCE. Committee: Mark Braverman, Ed. Felten, Ran Raz, Matt Weinberg.	
2020	School of Engineering and Applied Sciences Award for Excellence .	
2016	Dean's Grant (for 5 years). Fellowship in Engineering and Applied Sciences.	
	Universidade Federal de Itajuba , Itabira, MG Brazil.	
2016	B.S. in COMPUTER ENGINEERING Academic Accolade for best student. Congratulations from Higher Counsel.	GPA: 93.3/100
2014	VISITING STUDENT at University of California, San Diego BSMP Scholarship from Brazilian Federal Government. CNS Espresso Prize for Excellence in Networking (2014).	GPA: 3.92/4.00
2013	1 st place in Line Follower Robot Competition.	

HONORS AND AWARDS

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| • Tapia Scholarship , Tapia Conference | Sept 2020 |
| • LATInE Fellow , Purdue University | July 2020 |
| • 2020 CRA-WP Grad Cohort for URMD , CRA | March 2020 |
| • AGT Mentoring Workshop Grant , ACM | June 2019 |
| • Motion of Applause , Municipal Chamber of Itabira | May 2016 |
| • Undergraduate Research Fellowship at UFMG , Fapeming | Sept 2013 |
| • Undergraduate Research Fellowship at Unifei, Fapeming | Feb 2012 |

PUBLICATIONS (AUTHORS ARE ORDERED ALPHABETICALLY)

1. Matheus V. X. Ferreira and S. Matthew Weinberg. Credible, truthful, and two-round (optimal) auctions via cryptographic commitments. In *Proceedings of the 21st ACM Conference on Economics and Computation*, EC 20, page 683712, New York, NY, USA, 2020. Association for Computing Machinery
2. Tithi Chattopadhyay, Nick Feamster, Matheus V. X. Ferreira, Danny Yuxing Huang, and S. Matthew Weinberg. Selling a single item with negative externalities. In *The World Wide Web Conference*, WWW 19, page 196206, New York, NY, USA, 2019. Association for Computing Machinery

WORKING PAPERS (AUTHORS ARE ORDERED ALPHABETICALLY)

1. Matheus V. X. Ferreira and S Matthew Weinberg. Proof-of-stake mining games with perfect randomness. *Submitted*, 2021
2. Matheus V. X. Ferreira, Daniel J. Moroz, David C. Parkes, and Mitchell Stern. Dynamic posted-price mechanisms as a blockchain transaction fee mechanism. *Submitted*, 2021

WORK EXPERIENCE & LONG TERM VISITS

- Research Assistant, Harvard University
Supervisor: Professor [David C. Parkes](#) June – Sept 2020
- Research Assistant, Princeton University
Supervisor: Professor [S. Matthew Weinberg](#) June 2017 – Present
- Research Assistant, Universidade Federal de Itajuba
Supervisor: Professor Carlos Henrique da Silveira Jul 2011 – Feb 2013
- Research Assistant, Universidade Federal de Minas Gerais
Supervisor: Professor Fernando Afonso Santos Sept 2013 – Feb 2014
- Broadcom Corporation at San Diego, California
Software Development Engineer Intern in Bluetooth/NFC Software Team
Supervisor: David Hughes Jun-Sept 2014

SERVICE

Program Committee

- [Cryptoeconomic Systems](#), 2020.
- [Global Challenges in Economics and Computation](#), 2020.

Reviewing

- [ACM EC](#), 2021.
- [USENIX Security Symposium](#), 2021.
- [Games and Economic Behavior](#), 2020.
- [ACM Advances in Financial Technologies](#) (AFT), 2020.
- [Innovations of Theoretical Computer Science](#) (ITCS), 2019, 2020.
- [Conference on Web and Internet Economics](#) (WINE), 2018, 2019, 2020.

INVITED TALKS

Economics and computation in decentralized systems

- Microsoft Research, Redmond, [Slides](#) March 2021.

Algorithms, game theory and blockchains

- Reading group at ORFE, Princeton University, [Slides](#) March 2021.

Proof-of-Stake Mining Games with Perfect Randomness

- Theory day, Princeton University April 2021
- Poster, [Tapia Conference](#), Virtual Event Sept 2020
- Poster, [CRA-WP](#), Austin, Texas March 2020

Credible, Truthful, and Two-Round (Optimal) Auctions via Cryptographic Commitments

[Long talk](#), [Short talk](#)

- INFORMS Virtual 2020 Annual Meeting Nov 2020

- Poster, [LATinE](#), Purdue University July 2020
- [ACM Conference on Economics and Computation](#) July 2020
- [Princeton University Research Day](#) May 2020
- Lightning Talk and Poster, [WINE](#), Columbia University December 2019
- Theory of Computer Science Group, Princeton University June 2019

Selling a Single Item with Negative Externalities: To Regulate Production or Payments?

- The Web Conference, San Francisco May 2019
- Poster, 19th ACM EC 2018, Cornell University June 2018

TEACHING

Princeton University – Teaching Assistant

Spring 2020	Junior Independent Work (COS 398)
Spring 2018	Economics and Computation (COS 445)
Fall 2017	Computation Geometry (COS 451)

Universidade Federal de Itajuba – Teaching Assistant

2015	Computer Security
2013	Objected-Oriented Programming (ECO 30)

UNDERGRADUATE STUDENTS MENTORING

- Tinashe Handina. *Princeton University* Summer 2020 – Present
Combinatorial credible auctions.
- Matteo Russo. *Princeton University* Summer 2020
Characterizing the design space of single-item cryptographic auctions.
- Catherine Yu. *Princeton University* Summer 2020 – Present
Incentives in the Algorand blockchain.
- Michelle Woo. *Princeton University* Fall 2020 – Present
Computing optimal selfish mining strategies for Proof-of-Stake blockchains via MDPs.
- Sang Truong. *DePauw University* Fall 2020 – Present
Automatic market makers.

DIVERSITY, INCLUSION & OUTREACH

- Mentor, Algorithmic Game Theory Mentoring Workshop (AMW), SIGECOM, 2020.
- Peer Mentor, [Graduate Scholars Program](#), Princeton University, 2019 to Present.
- Peer Educator, [LGBTQIA Peer Ed Program](#), Princeton University, 2019.
- Mentor, [Princeton Summer Programming Experience](#), Princeton University, 2017
- Mentor, [Princeton Women in Computer Science](#), Princeton University, 2016

SOFTWARE

Jun 2014	<p>UNIVERSITY OF CALIFORNIA, SAN DIEGO Vein – Rivers of Blood Class Project Supervised by Geoff Voelker</p> <ul style="list-style-type: none"> • Developed a distributed, real-time, 3D, multiplayer survival race game of microorganisms in the human body using C++ and DirectX11.
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LANGUAGES

PORTUGUESE: Mothertongue
ENGLISH: Fluent

COMPUTER SKILLS

Programming: Python, C/C++, Java, Matlab, OpenGL, SQL, JavaScript, OCaml, R, Perl
Others: LINUX, Windows, Bash, GDB, Git, L^AT_EX