Matheus Venturyne Xavier Ferreira

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Personal Data

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Research Interests

I'm broadly interested in Algorithmic Design under Uncertainty and the interplay of Algorithmic Game Theory, Information Security, Fairness and Policy.

Education

In Progress	Doctor of Philosophy in Computer Science, **Princeton University** PhD Advisor: S. Matthew Weinberg
Sept. 2018	M.A. in Computer Science at **Princeton University**
July 2016	B.S. in Computer Engineering at **Universidade Federal de Itajuba** Itabira, Brazil Gpa: 93.3/100

Honors and Awards

- Tapia Scholarship — Sept 2020
- LATInE Fellow — July 2020
- 2020 CRA-WP Grad Cohort for URMD — March. 2020
- AGT Mentoring Workshop Grant, ACM — June 2019
- Dean's Grant, Princeton University — 2016 - 2021
- First Year Fellowship in Engineering, Princeton University — Sept. 2016
- Academic Accolade for best student, Unifei — July 2016
- Congratulations from Higher Counsel, Unifei Higher Counsel — June 2016
- Motion of Applause, Municipal Chamber of Itabira — May 2016
- George Varghese Espresso Prize, UC San Diego — Dec 2014
- Brazil Scientific Mobility Program, Brazilian Government — Jan–Dec 2014
- Fapemig Research Scholarship, LOTMine, UFMG, Brazil — Sept 2013
- 1^{st} place in Line Follower Robot Competition, Unifei, Brazil — Sept 2013
- Fapemig Research Scholarship, Unifei, Brazil — Feb 2012

Publications

Alphabetical Order:

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 683–712, 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 196–206, New York, NY, USA, 2019. Association for Computing Machinery

Working Papers

1. Matheus V. X. Ferreira and S Matthew Weinberg. Proof-of-stake mining games with perfect randomness. 2020

Work Experience & Long Term Visits

- Research Assistant, Harvard University — June 2020 – Present
  Supervisor: Professor David Parkes
- Research Assistant, Princeton University — June 2017 – Present
  Supervisor: Professor S. Matthew Weinberg
- Non-degree international student, University of California, San Diego — 2014
  GPA: 3.92/4.00
- Broadcom Corporation at San Diego, California — Jun-Sept 2014
  Software Development Engineer Intern in Bluetooth/NFC Software Team
  Supervisor: David Hughes

Service

Program Committee

- Cryptoeconomic Systems (2020).
- Global Challenges in Economics and Computation (2020)

Reviewing

- Games and Economic Behavior (2019 – 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

Talks

Proof-of-Stake Mining Games with Perfect Randomness

- Poster Session, CRA-WP, Austin, Texas — March 2020

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

- Poster Session, LATinE, Purdue University — July 2020
- ACM Conference on Economics and Computeation (EC 2020), Video — July 2020
- Princeton University Research Day, Video — May 2020
- Lightning Talk and Poster Session, 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 Session, 19th ACM EC 2018, Cornell University — June 2018
- Mechanism Design Seminar, Princeton University — June 2017

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* — 2020
- Matteo Russo. *Princeton University* — 2020
- Catherine Yu. *Princeton University* — 2020

Diversity, Inclusion & Outreach

- 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

Course Work

Open Problems in Algorithmic Game Theory, Analytic Methods in TCS, Theoretical Machine Learning, Advanced Cryptography, The Probabilistic Method, Advanced Algorithm Design, Probability in High Dimension, Information Theory and Applications, Advanced Computer Networks, Automated Reasoning about Software.

Software

Jun 2014 — University of California, San Diego

Vein – Rivers of Blood

Class Project Supervised by Geoff Voelker

- Developed a distributed, real-time, 3D, multiplayer survival race game of microorganisms in the human body using C++ and DirectX11.

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, LaTeX