

# Matheus Venturyne Xavier Ferreira

September 11, 2020

## PERSONAL DATA

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## RESEARCH INTERESTS

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

## EDUCATION

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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

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- [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<sup>st</sup> place in Line Follower Robot Competition, Unifei, Brazil Sept 2013
- Fapemig Research Scholarship, Unifei, Brazil Feb 2012

## PUBLICATIONS

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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

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1. Matheus V. X. Ferreira and S Matthew Weinberg. Proof-of-stake mining games with perfect randomness. 2020
2. Matheus V. X. Ferreira, Daniel J. Moroz, Mitchell Stern, and David C. Parkes. Blockchain transaction fee auctions via dynamic uniform pricing. 2020

## WORK EXPERIENCE & LONG TERM VISITS

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- Research Assistant, Harvard University June – Sept 2020  
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

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### 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

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### Proof-of-Stake Mining Games with Perfect Randomness

- Poster Session, [Tapia Conference](#), Virtual Event Sept 2020
- 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 Computation, 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

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### **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

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- Tinashe Handina. *Princeton University* 2020
- Matteo Russo. *Princeton University* 2020
- Catherine Yu. *Princeton University* 2020

## DIVERSITY, INCLUSION & OUTREACH

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- 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

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Advanced Algorithm Design, Algorithmic Game Theory, Analytic Methods in Theoretical Computer Science, Theoretical Machine Learning, Advanced Cryptography, Modern Discrete Probability Theory, The Probabilistic Method, Advanced Computer Networks.

## SOFTWARE

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

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PORTUGUESE: Mothertongue  
ENGLISH: Fluent

## COMPUTER SKILLS

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