Matheus Venturyne Xavier Ferreira

Personal Data

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Research Interests

Algorithms, Game Theory, Cryptography, Security

Appointments

Harvard University, MA, USA
Postdoctoral Fellow in Computer Science — Sept 2021 - Present

Education

Princeton University, NJ, USA
Ph.D in Computer Science — Sept 2016 - Present
Committee: S. Matthew Weinberg (Chair), Arvind Narayanan, David Parkes, Mark Braverman, Ran Raz

University of California, San Diego, CA, USA
Exchange student with a fully funded BSMP Scholarship *(GPA: 3.92/4.00)* — Jan 2014 - Dec 2014

Universidade Federal de Itajubá, Itabira, MG, Brazil
B.S. with Honors in Computer Engineering *(GPA: 93.3/100)* — Jan 2011 - July 2016

Selected Honors and Awards

- SEAS Award for Excellence, Princeton University — Dec 2020
- LATinE Fellow, Purdue University — July 2020
- Dean's Grant, Princeton University — 2016 - 2021
- First Year Fellowship in Engineering, Princeton University — Sept. 2016 - June 2017
- Congratulations from Higher Counsel, Universidade Federal de Itajubá — June 2016
- Motion of Applause, Municipal Chamber of Itabira — 2016
- CNS Espresso Prize for Excellence in Networking, University of California, San Diego — 2014
- 1^{st} place in 2nd Line Follower Robot Competition, Universidade Federal de Itajubá [Video] — 2013

Research Papers

1. Matheus V. X. Ferreira, Daniel J. Moroz, David C. Parkes, and Mitchell Stern. Dynamic posted-price mechanisms for the blockchain transaction-fee market. In *Proceedings of the 3rd ACM conference on Advances in Financial Technologies*, AFT '21, New York, NY, USA, 2021. Association for Computing Machinery

2. Matheus V. X. Ferreira and S. Matthew Weinberg. Proof-of-stake mining games with perfect randomness. In *Proceedings of the 22nd ACM Conference on Economics and Computation*, EC '21, page 433–453, New York, NY, USA, 2021. Association for Computing Machinery

3. 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, pages 683—-712, New York, NY, USA, 2020. Association for Computing Machinery

4. 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, pages 196—206, New York, NY, USA, 2019. Association for Computing Machinery

Working Papers

1. Meryem Essaidi, Matheus V.X. Ferreira, and S. Matthew Weinberg. Credible, strategyproof, optimal, and bounded expected-round single-item auctions for all distributions

Undergraduate Students Mentoring

- Tinashe Handina. *Princeton University*, now CS Ph.D at Caltech — June 2020 – Present
  Combinatorial credible auctions.
- Catherine Yu. *Princeton University* — June 2020 – Present
  Incentives in the Algorand blockchain.

Teaching Experience

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)

Service

Program Committee

- Cryptoeconomic Systems, 2020, 2021.
- Global Challenges in Economics and Computation, 2020.

Reviewing

- SODA, 2022.
- 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.

Industry Experience

- Broadcom Corporation at San Diego, CA, USA — June - Sept 2014
  Software Development Engineer Intern in Bluetooth/NFC (Supervisor: David Hughes)

Software

Vein: Rivers of Blood [Video]: A distributed, real-time, 3D, multiplayer survival race game of microorganisms in the human body using C++ and DirectX11. My contributions focused on physics simulation, artificial intelligence and developing the game engine.

Computer Skills

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