Matheus V. X. 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, Cryptography and Machine Learning.

Education

In Progress	Doctor of Philosophy in Computer Science, **Princeton University** Research Advisor: Matthew Weinberg
Sept 2018	M.A. in Computer Science, **Princeton University** Gpa: 3.95/4.00
July 2016	B.S. in Computer Engineering at **Universidade Federal de Itajuba** Gpa: 92.8/100
Jan–Dec 2014	Non-degree international student, **University of California, San Diego** Gpa: 3.92/4.00

Work Experience

Jun-Sept 2014 — Broadcom Corporation at San Diego, California
Software Development Engineer Intern in Bluetooth/NFC Software Team
Supported the BTE Blueotooth stack, profiles and protocols – software development, debugging and testing. Developed enhancements in Bradcom WICED and Bluetooth tracing and testing tools

Research Papers

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

  Tithi Chattopadhyay, Nick Feamster, Matheus V. X. Ferreira, Danny Yuxing Huang, S. Matthew Weinberg.

  In Proceedings of The Web Conference 2019.

Working Papers

- **Proof-of-Stack Blockchain Minting Games**. Joint with S. Matthew Weinberg.
- **How to Force Mechanisms to Commit**. Joint with S. Matthew Weinberg.

Manuscripts

- Constructive Discrepancy Minimization for Convex Sets, joint with Corey Sinnamon, 2019.
- Make Crypto Great Again, joint with Malte Möser, 2016.
- Dolphin: Dataplane Load-balancing in Programmable Hybrid Networks, joint with Andrew Or and Chaitanya Aluru, 2016.
- Automatic Offloading of Java Applications, 2016.
- Caracterização de descontinuidade de fitas em favor de helices em estruturas proteicas toda-beta, 2013.

Talks

December 2019	Lightning Talk & Poster Session, WINE 2019, New York City, NY **How to Force Mechanisms to Commit**
June 2019	Theory of Computer Science Group, Princeton University **How to Force Mechanisms to Commit**
May 2019	The Web Conference 2019, San Francisco, CA **Selling a Single Item with Negative Externalities: To Regulate Production or Payments?**
December 2018	Gems of Theoretical Computer Science Seminar, Princeton University **Simple** $\log\log rank$ **competitive algorithm for matroid secretary**
June 2018	Poster Session, 19th ACM EC 2018, Ithaca, NY **Mitigating Insecure Devices, to Regulate Consumers or Manufacturers?**
March 2018	Mechanism Design Seminar, Princeton University **The matroid secretary problem for minor-closed classes and random matroids**
October 2017	Gems of Theoretical Computer Science Seminar, Princeton University **Rational seceret sharing and secure multi-party computation**
June 2017	Mechanism Design Seminar, Princeton University **Selling a Single Item with Negative Externalities: To Regulate Production or Payments?**

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.

Course Work

Open Problems in Algorithmic Game Theory, Theoretical Machine Learning, Advanced Cryptography, The Probabilistic Method, Advanced Algorithm Design, Probability in High Dimension, Advanced Computer Networks, Automated Reasoning about Software

Teaching

Princeton University

Spring 2018	Economics and Computation (COS 445)
Fall 2017	Computation Geometry (COS 451)

Universidade Federal de Itajuba

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

Service

Journal Reviewer

- Games and Economic Behavior (2019 to Present).

Invited External Reviewing

- Innovations of Theoretical Computer Science (ITCS) 2019, 2020.
- Conference on Web and Internet Economics (WINE) 2018, 2019.

Diversity, Inclusion & Outreach

- Peer Mentor, Graduate Scholars Program, Princeton University, 2019.
- 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

Honors and Awards

Nov. 2019	2020 Computer Research Association-WP Grad Cohort for URMD
June. 2019	AGT Mentoring Workshop Grant, ACM
Sept 2016 - June 2021	Dean's Grant, Princeton University
Sept. 2016	First Year Fellowship, Princeton University
July 2016	Academic Accolade for best student, Universidade Federal de Itajuba
Dec. 2014	George Varghese Espresso Prize, University of California, San Diego
Jan–Dec 2014	Brazil Scientific Mobility Program, fully-funded scholarship recipient University of California, San Diego
Sept 2013	Fapemig Research Scholarship, LOTMine, UFMG, Brazil
Sept 2013	1^{st} Line Follower Robot Competition, Unifei, Brazil
Feb 2012	Fapemig Research Scholarship, Unifei, Brazil

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