Matheus Venturyne Xavier Ferreira

PERSONAL DATA   NOVEMBER 20, 2024

ADDRESS:	Rice Hall #102, 85 Engineer's Way, Charlottesville, Virginia 22904
EMAIL:	matheus@virginia.edu
WEBPAGE:	https://sites.google.com/view/matheusvxf/

RESEARCH INTERESTS

Artificial Intelligence, Optimization, Algorithmic Economics, Security

EDUCATION

Princeton University   Princeton, NJ, USA
Doctor of Philosophy in COMPUTER SCIENCE   2022
Master of Arts in COMPUTER SCIENCE   2018

Universidade Federal de Itajubá   Itabira, MG, Brazil
B.S. with Honors in COMPUTER ENGINEERING   2016

University of California, San Diego   San Diego, CA, USA
Exchange student fully funded by a BSMP Fellowship   2014

PROFESSIONAL EXPERIENCE

University of Virginia   Charlottesville, VA, USA
Assistant Professor of COMPUTER SCIENCE   July 2024 - Present

Harvard University   Boston, MA, USA
Lecturer in COMPUTER SCIENCE   Sept 2023 - December 2023
Postdoctoral Fellow in COMPUTER SCIENCE   Sept 2021 - July 2024
Fellow in COMPUTER SCIENCE   Summer 2020

Princeton University   Princeton, NJ, USA
Ph.D. candidate in COMPUTER SCIENCE (advised by *S. Matthew Weinberg*)   Sept 2016 - Dec 2021
Thesis: *Economics and Computation in Decentralized Systems*

Broadcom Corporation   San Diego, CA, USA
SOFTWARE DEVELOPMENT ENGINEER INTERN IN BLUETOOTH/NFC   Summer 2014

SELECTED HONORS AND AWARDS

- Postdoctoral Fellowship, Simons Laufer Mathematical Sciences Institute (SLMath)   2023
  (declined due to work visa restrictions)

- Highlights Beyond EC, 24th ACM Conference on Economics and Computation   2023

- Future Faculty Career Exploration Program, Rochester Institute of Technology   2022

- Spotlight Beyond WINE, The 17th Conference on Web and Internet Economics   2021

- SEAS Award for Excellence, Princeton School of Engineering and Applied Sciences   2020

- LATinE Fellow, Purdue University College of Engineering   2020

- CRA-WP Grad Cohort for URMD, Computing Research Association   2020

- Winning Presentation, Princeton Research Day, Princeton University   2020

- Dean's Grant, Princeton University Graduate School   2016 - 2021

- First Year Fellowship in Engineering, Princeton University 2016

- Congratulations from Higher Counsel, Universidade Federal de Itajubá 2016

- Motion of Applause, Municipal Chamber of Itabira 2016

- CNS Espresso Prize for Excellence in Networking, University of California, San Diego 2014

- Brazil Scientific Mobility Program, Federal Government of Brazil 2014

- 1st place in 2nd Line Follower Robot Competition, Unifei [**Video**] 2013

PUBLICATIONS (AUTHORS IN ALPHABETICAL ORDER) **Google Scholar**

-
-
-
-
-
-
-
-
-

TEACHING

University of Virginia

| Fall 2024 | Economics of Distributed Systems (CS 6501) |

Harvard University - Co-Instructor

| Fall 2023 | Economics and Computation (CS 136) |

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) |

2025

      Program Committee. Financial Cryptography (FC)
      External Reviewer. Innovations in Theoretical Computer Science (ITCS)

2024

      Panel. NSF Small Business Innovation Research/Small Business Technology Transfer
      Co-Organizer. EC'24 Tutorial on Transaction Fee Mechanism Design
      Program Committee. ACM Economics and Computation (EC)
      Program Committee. Advances in Financial Technologies (AFT)
      Program Committee. The 4th Workshop on Decentralized Finance (DeFi)
      Reviewer. Finance and Stochastics
      Reviewer. Games and Economics Behavior
      External Reviewer. Innovations in Theoretical Computer Science (ITCS)
      External Reviewer. Symposium on Theory of Computing (STOC)
      External Reviewer. ACM-SIAM Symposium on Discrete Algorithms (SODA)
      External Reviewer. ACM Symposium on Principles of Distributed Computing (PODC)

2023

      Poster Co-Chair. ACM EAAMO
      Program Committee. Tokenomics
      Program Committee. WINE
      Program Committee. ACM Advances in Financial Technologies
      Program Committee. MARBLE
      Program Committee. ACM Economics and Computation (EC)
      Program Committee. The Web Conference: Economics, Monetization, and Online Markets
      Reviewer. Operations Research
      Reviewer. Distributed Ledger Technologies
      Reviewer. International Economic Review
      Reviewer. Transactions on Economics and Computation
      Reviewer. ACM-SIAM Symposium on Discrete Algorithms (SODA)
      Reviewer. Journal of Cryptoeconomic Systems

2022

      Program Committee. Tokenomics
      Program Committee. ACM Advances in Financial Technologies (AFT)
      Program Committee. MARBLE
      Reviewer. Transactions on Economics and Computation
      External Reviewer. Symposium on Theory of Computing (STOC)
      External Reviewer. ACM-SIAM Symposium on Discrete Algorithms (SODA)
      External Reviewer. Innovations in Theoretical Computer Science (ITCS)

2021

      Reviewer. Journal of Cryptoeconomic Systems
      External Reviewer. ACM Economics and Computation (EC)
      External Reviewer. USENIX Security

2020

      Program Committee. Global Challenges in Economics and Computation
      Reviewer. Journal of Cryptoeconomic Systems
      Reviewer. Games and Economic Behavior
      External Reviewer. ACM Advances in Financial Technologies (AFT)
      External Reviewer. Innovations in Theoretical Computer Science (ITCS)
      External Reviewer. Web and Internet Economics (WINE)

2019

      External Reviewer. Innovations in Theoretical Computer Science (ITCS)
      External Reviewer. Web and Internet Economics (WINE)

2018

      External Reviewer. Web and Internet Economics (WINE)

RESEARCH ADVISING

- Lars Lien Ankile. *Harvard University*. Now at MIT   Summer '23 - May '24
  Title: *I See You! Robust Measurement of Adversarial Behavior*

- Hannah Huh. *Princeton University*. Now at Citadel   Spring '22 - May '22
  Title: *Computing Optimal Strategies for Cryptographic Self-Selection Games*

- Anthony Hein. *Princeton University*. Now at Five Rings   Fall '21 - May '22
  Title: *Searching for Optimal Strategies in Proof-of-Stake Mining Games with Access to External Randomness*
  Outstanding Computer Science Senior Thesis Prize

- Michelle Woo. *Princeton University*. Now at Radix Trading LLC   Fall '20 - May '21
  Title: *Computing optimal selfish mining strategies for Proof-of-Stake blockchains via MDPs*

- Catherine Yu. *Princeton University*. Now at Stripe   Summer '20 - May '22
  Title: *Optimal Strategic Mining Against Cryptographic Self-Selection in Proof-of-Stake*
  Published at ACM EC 2022

- Tinashe Handina. *Princeton University*. Now Ph.D. student at Caltech   Summer '20 - May '21
  Title: *A Random walk in Extensive Form Games: An Investigation into information, strategy-proofness and Credibility*

DIVERSITY, INCLUSION & OUTREACH

- Member, Computer Science Ad Hoc Committee, Princeton University   2021
- Panelist, CS Advisory Council: Grad student panel, Princeton Computer Science   August 2021
- Panelist, Pathways to Graduate School, Princeton School of Engineering   August 2021
- Panelist, Pathways to Graduate School, Princeton School of Engineering   August 2020
- Panelist, Princeton Prospective PhD Preview (P3), Princeton Graduate School   October 2020
- Mentor, Algorithmic Game Theory Mentoring Workshop (AMW), SIGecom   2020, 2021, 2022
- Peer Mentor, Graduate Scholars Program (GSP), Princeton University   2019, 2020, 2021
- Graduate student faculty hiring committee, Princeton Computer Science   2019
- LGBTQIA Peer Educator, Whitman College, Princeton University   2019, 2020
- Mentor, Princeton Summer Programming Experience, Princeton University   2017
- Mentor, Princeton Women in Computer Science, Princeton University   2016, 2017

TALKS AND EVENTS

1. Double auctions for cross-blockchain resource allocation
   EC '24 Workshop on Blockchains and Decentralized Finance. Yale School of Management
   New Haven, CT. July 8, 2024

2. Credible Decentralized Exchange Design via Verifiable Sequencing Rules
   Econ-DeFi Seminar. UC Santa Barbara.
   Santa Barbara, CA. June 28, 2024

3. Dynamic Transaction Fee Mechanism Design
   EC '24 Transaction Fee Mechanism Design Tutorial
   June 25, 2024

4. I See You! Robust Measurement of Adversarial Behavior
   Marketplace Innovation Workshop (MIW)
   May 20, 2024

5. I See You! Robust Measurement of Adversarial Behavior
   TLDR Conference. Columbia Business School
   New York City. May 17, 2024

6. I See You! Robust Measurement of Adversarial Behavior
   NSF/CEME Decentralization Conference. Vanderbilt University
   Nashville, TN. April 19, 2024

7. I See You! Robust Measurement of Adversarial Behavior
   Blockchain Lab. Stern School of Business. New York University
   New York City, NY. April 12, 2024.

8. I Wasn't There: Applications of Blockchain to Privacy Preserving Reality Protection. **Facilitator**
   Princeton Center for the Decentralization of Power Through Blockchain Technology (Decenter)
   Princeton, NJ. December 04, 2023

9. Algorithm Design under the Credibility Lenses. **Quest Lecture**
   Boston University Center for Computing and Data Sciences
   Boston, MA. November 30, 2023

10. Credible Decentralized Exchange Design via Verifiable Sequencing Rules
    Thalesians Seminar. International Association for Quantitative Finance
    New York City, NY. October 03, 2023

11. Future of Decentralization, AI & Computing Summit. **Panelist**. UC Berkeley   [Video]
    Berkeley, CA, August 27, 2023

12. Algorithm Design under the Credibility Lenses. Blockchain + Economics workshop   [Video]
    August 15, 2023

13. Credible Decentralized Exchange Design via Verifiable Sequencing Rules   [Video]
    CryptoEconDay, CryptoEconLab
    Paris, France, July 9, 2023

14. Credible Decentralized Exchange Design via Verifiable Sequencing Rules. **Highlights Beyond EC**
    London, UK. June 23, 2023

15. Credible Decentralized Exchange Design via Verifiable Sequencing Rules. STOC 2023   [Video]
    Orlando, FL, June 20-23, 2023

16. Credible Decentralized Exchange Design via Verifiable Sequencing Rules
    MIT Media Lab, Digital Currency Initiative
    Cambridge, MA. June 14, 2023

17. Credible Decentralized Exchange Design via Verifiable Sequencing Rules
    Quantitative Issues in Centralised and Decentralised Finance (SIAM Financial Mathematics)
    Philadelphia, PA, June 9, 2023

18. Eighth Marketplace Innovation Workshop
    May 22, 2023
    Credible, Optimal Auctions via Blockchains

19. De Gruyter Digital Event   [Video]
    May 18, 2023
    Bitcoin: A game-theoretic analysis

20. Research Day at the Metrograph   [Video]
    New York City, NY, May 16, 2023
    Credible Decentralized Exchange Design via Verifiable Sequencing Rules

21. Crypto and Blockchain Economics Research Forum (CBER) Symposium   [Video]
    April 20, 2023
    Credible Decentralized Exchange Design via Verifiable Sequencing Rules

22. MIT, Algorithms and Complexity Seminar
    Cambridge, MA, April 19, 2023
    Credible Decentralized Exchange Design via Verifiable Sequencing Rules

23. Princeton University, Decenter Seminar
    Princeton, NJ, April 10-13, 2023
    Transparency and Security via Algorithmic Economics

24. University of Virginia, Department of Computer Science
    Charlottesville, VA, March 20-22, 2023
    Transparency and Security via Algorithmic Economics

25. Tufts University, Department of Computer Science
    Medford, MA, February 28 and March 1, 2023
    Transparency and Security via Algorithmic Economics

26. The University of Sydney, School of Computer Science
    Sydney, Australia, February 20, 2023
    Transparency and Security via Algorithmic Economics

27. Carnegie Mellon University, Crypto Seminar   [Video]
    Pittsburgh PA, February 16, 2023
    Transparency and Security via Algorithmic Economics

28. 4th International Conference on Blockchain Economics Security and Protocols (Tokenomics)
    Sorbonne Université, France, December 12-13, 2022
    Credible Decentralized Exchange Design via Verifiable Sequencing Rules

29. Harvard University, EconCS Seminar
    Boston, MA, November 4, 2022
    Credible Decentralized Exchange Design via Verifiable Sequencing Rules

30. SIGecom Seminar Series Fall 2022
    November 4, 2022
    Optimal Strategic Mining Against Cryptographic Self-Selection in Proof-of-Stake

31. UC Berkeley, Crypto Economics Security Conference
    Berkeley, CA, October 31-November 1, 2022
    Credible Decentralized Exchange Design via Verifiable Sequencing Rules

32. INFORMS Annual Meeting
    Indianapolis, IN, October 16-19, 2022
    Optimal Strategic Mining Against Cryptographic Self-Selection in Proof-of-Stake

33. Rochester Institute of Technology (**Future Faculty Career Exploration Program**)
    Rochester, NY, September 21-24, 2022
    Economics and Computation in Distributed Systems

34. 23rd ACM Conference on Economics and Computation   [Video]
    University of Colorado, Boulder, CO, July 11-15, 2022
    Optimal Strategic Mining Against Cryptographic Self-Selection in Proof-of-Stake

35. Ripple Labs, Crypto Monthly
    June 21, 2022
    Economics and Computation in Distributed Systems

36. Harvard University, Theory of Computation Seminar
    Boston, February 11, 2022
    Proof-of-Stake Mining Games with Perfect Randomness

37. The 17th Conference on Web and Internet Economics (**Spotlights Beyond WINE**) [Video]
    December 15, 2021
    Proof-of-Stake Mining Games with Perfect Randomness

38. 3rd ACM Conference on Advances in Financial Technologies   [Video]
    September 26-28, 2021
    Dynamic Posted-Price Mechanisms for the Blockchain Transaction-fee market

39. 16th Workshop on the Economics of Networks, Systems and Computation
    July 23, 2021
    Dynamic Posted-Price Mechanisms for the Blockchain Transaction-fee market

40. 22nd ACM Conference on Economics and Computation   [Video]
    July 22, 2021
    Proof-of-Stake Mining Games with Perfect Randomness

41. Princeton University, Research Day   [Video]
    Princeton, May 2021
    Proof-of-Stake Mining Games with Perfect Randomness

42. Princeton University, Theory of Computation Day
    Princeton, April 2021
    Proof-of-Stake Mining Games with Perfect Randomness

43. Microsoft Research, Algorithms Group
    Redmond, WA, March 10, 2021
    Economics and Computation in Distributed Systems

44. INFORMS Annual Meeting
    November 2020
    Credible, Truthful, and Two-Round (Optimal) Auctions via Cryptographic Commitments

45. 21st ACM Conference on Economics and Computation   [Video]
    July 2020
    Credible, Truthful, and Two-Round (Optimal) Auctions via Cryptographic Commitments

46. Princeton University, Research Day (**Winning Presentation**)   [Video]
    Princeton, NJ, May 5, 2020
    Credible, Truthful, and Two-Round (Optimal) Auctions via Cryptographic Commitments

47. Princeton University, Theory of Computation Day
    Princeton, NJ, June 2019
    Credible, Truthful, and Two-Round (Optimal) Auctions via Cryptographic Commitments

48. Princeton University, Mechanism Design Seminar
    Princeton, NJ, June 2017
    Selling a Single Item with Negative Externalities: To Regulate Production or Payments?