

geoff.ramseyer@cs.stanford.edu **Geoffrey Ramseyer**
<http://www.scs.stanford.edu/~geoff/> December 15, 2024
github.com/gramseyer

EDUCATION

Stanford University, Stanford, Sept 2017-Sept 2023

Computer Science MS, PhD
Advised by Professors Ashish Goel and David Mazières
Thesis: *Scalable Infrastructure for Digital Currencies*

The University of Chicago, Chicago, Sept 2013-June 2017

Mathematics BS (Honors) | Computer Science BS
Phi Beta Kappa, Student Marshal, 2016-2017
National Merit Scholar, Dean's List 2013-2017

Sophia University, Tokyo, Summer 2013

Japanese Language Summer Session

PUBLICATIONS

Fair Ordering for Replicated State Machines via Streaming Social Choice

Geoffrey Ramseyer and Ashish Goel
The Twentieth Conference on Web and Internet Economics, December 2024, Edinburgh

Augmenting Batch Exchanges with Constant Function Market Makers

Geoffrey Ramseyer, Mohak Goyal, Ashish Goel, and David Mazières
The Twenty-Fifth ACM Conference on Economics and Computation, July 2024, New Haven

Pricing Personalized Preferences for Privacy Protection in Constant Function Market Makers

Mohak Goyal and Geoffrey Ramseyer
Proceedings of the 2023 ACM CCS Workshop on Decentralized Finance and Security
November 2023, Copenhagen

Finding the Right Curve: Optimal Design of Constant Function Market Makers

Mohak Goyal, Geoffrey Ramseyer, Ashish Goel, and David Mazières
The Twenty-Fourth ACM Conference on Economics and Computation, July 2023, London

SPEEDEX: A Scalable, Parallelizable, and Economically Efficient Decentralized EXchange

Geoffrey Ramseyer, Ashish Goel, and David Mazières
20th USENIX Symposium on Networked Systems Design and Implementation, April 2023, Boston

Continuous Credit Networks and Layer 2 Blockchains: Monotonicity and Sampling

Ashish Goel and Geoffrey Ramseyer
The Twenty-First ACM Conference on Economics and Computation, July 2020, Budapest

Constrained Credit Networks

Geoffrey Ramseyer, Ashish Goel, and David Mazières
Proceedings of The Web Conference 2020, April 2020, Taipei

Verifiable Origami Construction

Geoffrey Ramseyer
7OSME Conference Proceedings, September 2018

WORKING PAPERS

Groundhog: Linearly-Scalable Smart Contracting via Commutative Transaction Semantics

Geoffrey Ramseyer and David Mazières
<http://www.scs.stanford.edu/~geoff/papers/groundhog.pdf>

WORKSHOPS

DeCl: Deterministic and Metered Native Sandboxes

Zachary Yedidia, Geoffrey Ramseyer, and David Mazières
Workshop on Scalability and Interoperability in Blockchains, at AFT 2024

September 2024, Vienna
Pricing Personalized Preferences for Privacy Protection in Constant Function Market Makers
Mohak Goyal and Geoffrey Ramseyer
The Latest in Defi Research
 May 2024, New York City

Scalable, Frequent Batch Auctions with Multiple Numeraires
Market Structure, Quantitative Trading, High Frequency, and Large Data
Organized by the Stevanovich Center for Financial Mathematics at the University of Chicago
 May 2024, Chicago

Fair Ordering via Streaming Social Choice Theory
Geoffrey Ramseyer and Ashish Goel
4th Workshop on Decentralized Finance, at FC 2024
 March 2024, Curaçao
ACM Symposium on Principles of Distributed Computing 2024 (Brief Announcement)
 June 2024, Nantes

Heterogeneous and Efficient Partial Auditing of Replicated State Machines
Geoffrey Ramseyer and David Mazières
Workshop on Heterogeneous Trust in Distributed Systems, at AFT 2023
 October 2023, Princeton

Augmenting Batch Exchanges with Constant Function Market Makers
Geoffrey Ramseyer, Mohak Goyal, Ashish Goel, and David Mazières
5th International Conference on Blockchain Economics, Security and Protocols (Tokenomics)
 October 2023, New York City

Finding the Right Curve: Optimal Design of Constant Function Market Makers
Mohak Goyal, Geoffrey Ramseyer, Ashish Goel, and David Mazières
8th Market Innovation Workshop, May 2023

Scaling On-Chain Asset Exchanges via Arrow-Debreu Exchange Markets
Geoffrey Ramseyer, Ashish Goel, and David Mazières
Workshop on Game Theory in Blockchain, at WINE 2020, December 2020, Beijing

TEACHING

Stanford University, Computer Science Department, Course Assistant
CS244b, Distributed Systems Spring 2022
CS161, Design and Analysis of Algorithms Winter 2020
CS261, Optimization and Algorithmic Paradigms Winter 2019

University of Chicago, Computer Science Department, Grader
CMSC280, Formal Languages Fall 2016

WORK EXPERIENCE

Unnamed Startup Cofounder Aug 2024-Present

Stanford University; Stanford, CA; Postdoctoral Researcher Oct 2023-Jul 2024
Design and implement scalable infrastructure for digital currencies, continuing doctoral research with Ashish Goel and David Mazières.

Nexus Labs; Researcher May 2023-Nov 2023
Assist in the design of zero-knowledge folding schemes.

Stellar Development Foundation; San Francisco, CA; Researcher Jul 2021-Sep 2022
Prototyped an integration of SPEEDEX on Stellar and developed protocol upgrade specifications.

Google Payments Compliance Team; Boulder, CO; Software Engineering Intern Jun 2016-Sep 2016
Prototyped a structured search system for sanctions screening.

The University of Chicago Computer Science Department; Chicago, IL; Software Developer Sep 2015-Jan 2015
Rewrote CS22300 (Networks) router simulation project framework.

Google Flights Backend Team; Boston, MA; Software Engineering Intern

- Launched service to synthesize flight schedules from imperfect data sources and created tools to measure schedule accuracy* Jun 2015-Sep 2015
- Keio University, Semiconductor Isotope Engineering, Itoh Group; Tokyo, Japan; Intern**
Programmed optical equipment to locate nitrogen vacancy centers within diamond crystals as part of a quantum computing research initiative. Jun 2014-Aug 2014
- Student Integrated Feedback for Teachers; Chicago; Software Engineer**
Built tools for analyzing and presenting student feedback on teachers to administrators. 2013-2016
- Tufts University, Center for Engineering Education & Outreach, Intern**
Designed and programmed bipedal and other nonconventionally mobile LEGO robots as pedagogical aids in an mechanical engineering course. Summer 2012
- The Battery Powered Picklejar Heads, FIRST Robotics Team, Lead Programmer**
Wrote and maintained robot control libraries and a probabilistic localization system on computationally limited hardware 2006-2013

SERVICE

- Program Committee AFT 2023, 2024**
- Splash! Chicago; Chicago, IL; 2013-2016**
Directed educational programs for Chicago high school students.
- FIRST Tournament Volunteer and Team Mentor; Boston, MA and Chicago, IL; 2013-2017**
Helped operate and judge FIRST robotics tournaments