Fernando Granha Jeronimo

INFORMATION

Computer Science Department
University of Chicago
granha@uchicago.edu
https://granha.github.io/
Nationality: Brazilian

EDUCATION

University of Chicago - UChicago, Chicago, IL, USA

Ph.D. in Theoretical Computer Science. Sept.2015–Jun.2021 (expected)
Advisor: Prof. Madhur Tulsiani

University of Campinas - Unicamp, Campinas, SP, Brazil

M.Sc. in Theoretical Computer Science. Mar.2013-Jun.2015
Title: Quantum computing: automata, games, and complexity
Advisor: Arnaldo V. Moura.
Fellowship: FAPESP and CAPES
GPA: 4.0

Telecom ParisTech - ENST, Paris, France

Double Degree Program (french masters in engineering). Sept.2009-Jul.2011
Fellowship: CAPES Brafitec

University of Campinas - Unicamp, Campinas, SP, Brazil

B.Sc. Computer Engineering. Feb.2006-Jul.2012
1^{st} ranked computer engineer at graduation among
about 100 students (von Neumann prize)

PUBLICATIONS AND PREPRINTS

"Near-linear Time Decoding of Ta-Shma's Codes via Splittable Regularity",
with Shashank Srivastava and Madhur Tulsiani
(In submission)
[working draft of full-version]

"Unique Decoding of Explicit ϵ-balanced Codes Near the Gilbert–Varshamov Bound",
with Dylan Quintana, Shashank Srivastava and Madhur Tulsiani
Proceedings of the 61st IEEE Symposium on Foundations of Computer Science **(FOCS)** 2020 **(Invited to the special issue of FOCS)**,
[full-version]

"Sum-of-Squares Lower Bounds for Sherrington-Kirkpatrick via Planted Affine Planes",
with Mrinalkanti Ghosh, Chris Jones, Aaron Potechin and Goutham Rajendran
Proceedings of the 61st IEEE Symposium on Foundations of Computer Science **(FOCS)** 2020,
[full-version]

"Tighter Bounds on the Independence Number of the Birkhoff Graph",
with Leonardo Nagami Coregliano
(In submission)
[full-version]

"List Decoding of Direct Sum Codes",
with Vedat Levi Alev, Dylan Quintana and Shashank Srivastava and Madhur Tulsiani
Proceedings of the 31st ACM-SIAM Symposium on Discrete Algorithms **(SODA)** 2020 pp 1412–1425,
[proceedings] [full-version]

"Approximating Constraint Satisfaction Problems on High-Dimensional Expanders",
with Vedat Levi Alev and Madhur Tulsiani
Proceedings of the 60th IEEE Symposium on Foundations of Computer Science **(FOCS)** 2019 pp 180-201,
[proceedings] [full-version]

Awards and Honors

- UChicago Unrestricted (UU) fellowship - Fall 2019
- Computer Science TA Prize - UChicago - 2017, 2018
- von Neumann Prize 2012 IC/Unicamp: 1st ranked computer engineer at graduation
- Brazilian Computing Society (SBC): outstanding student award
- CREA-SP: outstanding undergraduate student in computer and electrical engineering
- Engineering Institute: outstanding undergraduate student in computer engineering
- Institute of Computing Unicamp: distinction award
- IBM Team Work Award

Visiting Positions

California Institute of Technology - Caltech, Pasadena, CA, USA

Visiting Student Researcher. Jun.2014-Nov.2014
Title: Quantum computational complexity and entanglement.
Advisor: Thomas Vidick.
Fellowship: BEPE FAPESP.

Languages

- English: fluent
- French: fluent (DALF, Diplôme approfondi de langue française - C1)
- Spanish: basic
- Portuguese: native speaker

Teaching Assistant

- Algorithms (MPCS55001) **UChicago**: Fall 2016, Fall 2017, Spring 2018, Fall 2018, Fall 2020
- Algorithms (CMSC27200) **UChicago**: Winter 2016, Spring 2016, Winter 2019
- Discrete Mathematics (MPCS50103) **UChicago**: Winter 2017, Winter 2018, Winter 2020
- Discrete Mathematics and Data Analysis (CAPP30271) **UChicago**: Spring 2017
- Discrete Mathematics (CMSC27100) **UChicago**: Fall 2015
- Introduction to Algorithms (MC102) **Unicamp**: Aug.2007-Dec.2007

Service

- Helped organize theory reading groups at UChicago on high-dimensional expanders and coding theory.
- Reviewer/Subreviewer: FOCS, STOC, ITCS, CCC and SICOMP.

Professional Experience

IBM Linux Technology Center, Hortolândia, Brazil

Software Engineer Jan.2012-Feb.2013

- Virtualization and Cloud Management