## Fernando Granha Jeronimo

Information Computer Science Department

University of Chicago granha@uchicago.edu https://granha.github.io/

Feb.2006-Jul.2012

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.

1st 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  $\epsilon$ -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

 ${\bf Title:}\ {\bf Quantum}\ {\bf computational}\ {\bf complexity}\ {\bf and}\ {\bf entanglement}.$ 

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

 $\rm Jan.2012\text{-}Feb.2013$ 

• Virtualization and Cloud Management