



## Gonzalo Jiménez

Ph.D. in mathematics

► Chilean

## Skills

**LaTeX/ TikZ** 12+ yrs.

**Python / Sage  
Matlab** 4+ yrs.

**HTML / CSS  
JavaScript** 2+ yrs.

**Spanish** Native

**English** C1

**French** B1

**Portuguese** B1

## Contact

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🏠 <https://gingfreecss17.github.io/>

## Biography

Mathematician, with research-oriented training in pure mathematics and the use of programming to analyze, understand phenomena and solve problems. My research primarily focuses on Algebra and Combinatorics, with particular interest in Soergel Bimodules, Diagrammatic Calculus, and Categorification. Additionally, I have a strong interest in developing algorithms, graphical representation, and the analysis of discrete structures.

## Working experience

### Member of Creative Committee for the PAES

2023/2024

DEMRE

Universidad de Chile

Design, construction, and review of multiple-choice items for assessment tools for university selection in the field of mathematics.

### Tutor in the Integration to University Mathematics Program

Fall/2018

Department of Mathematics

Universidad Católica

Supporting first and second year students in Calculus and Linear Algebra.

### Tutor at Mathematics Helping Room

Fall/2017

Department of Mathematics

Universidad Católica

Providing assistance in resolving mathematical queries for students across all disciplines.

### Assistant of the Mathematical Reasoning course

Fall/2015

Department of Mathematics

Universidad Católica

Calculus and ODE coursework tailored for students in Medicine.

### Assistant of the Quantitative Reasoning course

Fall/2015

Department of Mathematics

Universidad Católica

Logic, Probability and Statistics coursework tailored for students in Pedagogy.

### Tutor at Mathematics Helping Room

Fall/2015

Department of Mathematics

Universidad Católica

Providing assistance in resolving mathematical queries for students across all disciplines.

### Assistant of the Ordinary Differential Equations course

Fall/2015

Department of Mathematics

Universidad Católica

ODE coursework tailored for students in Engineering, Physics, and Astronomy.

## Education

2023

**Doctorado en Matemática (Ph.D.)**

Universidad de Chile

*Algebra - Combinatorics*

Ph.D. thesis: "Counterexamples to the Forking Path Conjecture".

2015

**Mestrado em Matemática (M.Sc.)**

IMPA

*Algebra - Combinatorics*

Master thesis: "Tiles, Conway's tiling groups and some related problems".

2012

**Licenciatura en Matemática (B.Sc.)**

Universidad de Chile

*Number Theory - Algebra*

Investigation Unit: "Lattices and their behavior under completions".

## Other Interests

- ▶ Cycling
- ▶ Running
- ▶ Swimming

**Assistant of the Ordinary Differential Equations course**

Department of Mathematics  
Universidad de Chile

Spring/2012

Calculus and ODE coursework tailored for students in Biology, Chemistry and Engineering.

**Assistant of the Linear Algebra course**

Department of Mathematics  
Universidad de Chile

Fall/2011

Linear Algebra course for Mathematics and Physics students

**Member of Academic Committee**

Scholar Championship of Mathematics (CMAT)  
Universidad de Santiago

2008 - 2015

Creating, solving, evaluating, and proposing problems for the math olympiad. Grading student exams. Instructor for extracurricular workshops for outstanding students.

## Scholarships/Awards

- Beca Conicyt de Doctorado Nacional *Chile*, 2017
- Bourse d'études Fondation Sciences Mathématiques de Paris *France*, 2015
- Bolsa de estudos CNPq *Brazil*, 2013
- Best undergraduate student in the generation *Chile*, 2012
- Beca Universidad de Chile *Chile*, 2007
- Maximum score in the national university entrance exam (PSU) *Chile*, 2007

## Publications

- G. Jiménez. On the Forking Path Conjecture. *Journal of Algebra (accepted)*, 2023.

## Additional studies

- Data Science Bootcamp - Fall 2024  
Talento Digital - Sence
- English as a Medium of Instruction - Spring 2022  
Postgraduate Department - Universidad de Chile
- Introduction to University Teaching - Spring 2021  
Postgraduate Department - Universidad de Chile
- Data structures with Python - Fall 2020  
Coursera - Universidad Austral
- Introduction to Programming with Python - Fall 2020  
Coursera - Universidad Austral