# **JULIO CÁCERES GONZALES**

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#### **TECHNICAL SKILLS**

**Languages:** Python, Mathematica, SQL **(a) Additional Software:** Git, PyTorch, scikit-learn, NumPy, pandas, Anaconda, RStudio, Matlab, LaTeX

#### **EDUCATION**

PhD in Mathematics, Vanderbilt University (4.00 GPA)

2019 - May 2024

Dissertation topics: Graph plana algebra embeddings and new  $A_{\infty}$ -subfactors.

Master's in Mathematics, Universidad Federal de Santa Catarina (Brasil)

2017 - 2019

Bachelor of Science, Mathematics, Universidad Nacional de Ingeniería (Perú)

2011 - 2016

### **DATA SCIENCE EXPERIENCE**

## **Participant, Data Science Bootcamp**

January - April 2025

Erdős Institute

- Developed a forecasting model to predict outages caused by severe weather events in a group of 3 using neural networks.
- Won "top project" honors in project competition.
- Completed comprehensive semester-long course on Data Science techniques.

### RESEARCH EXPERIENCE

## **Doctoral Mathematics Researcher**

2019 - Present

Vanderbilt University, Department of Mathematics

- Built package integrating Python, Sage, Regina, and Mathematica to work with small dilatation pseudo-Anosov homeomorphisms
  using Veering triangulations to detect provable results.
- Solved open problems related to dynamics and symmetries of surfaces.
- Attended 7 conferences and delivered 11 invited academic talks developing both technical and non-technical communication skills.

## **LEADERSHIP EXPERIENCE**

# **Instructor of Record**

2020 - Present

Vanderbilt University, Department of Mathematics

- Taught as Instructor of Record for 5 courses including Multivariable calculus and Ordinary Differential equations. Also served as TA for 5 calculus courses.
- Won the B.F. Bryant Prize for Excellence in Teaching based on exemplary student reviews.

## Leadership program

Vanderbilt University, Career Center

March 2024

• Participated in the first cohort of the ELEVATE leadership program.

# **PUBLICATIONS** \*Authors listed in alphabetical order

Graph planar algebra embeddings and infinite depth subfactors, Dietmar Bisch, Julio Cáceres, Operator Algebras (2024)