

Ieremies Romero

OPERATIONAL RESEARCHER · PHD CANDIDATE · PROGRAMMING TEACHER

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About me

I am a PhD candidate in Computer Science at UNICAMP focused on integer linear programming and exact methods in combinatorial optimization, with research spanning optimal decision trees and graph coloring. In parallel, I am a programming teacher with extensive experience designing curricula and mentoring high school students in computational thinking.

Education

Doctorate in Computer Science

UNIVERSITY OF CAMPINAS - UNICAMP

2025 - Present

- Research in **Integer Linear Programming** to construct **Optimal Decision Trees**.

Masters in Computer Science

UNIVERSITY OF CAMPINAS - UNICAMP

2023 - 2024

- Master's Thesis: "*A Branch-and-Price algorithm for the Graph Coloring Problem*".
- Research in **Combinatorial Optimization** and **Exact Algorithms**, with focus in Integer Linear Programming.
- **Perfect grade** in all disciplines and **twice selected for the Teaching Internship Program** (*Programa de Estágio em Docência - PED*), where I contributed to the development of student assessments and educational platforms.

Bachelor in Computer Science

UNIVERSITY OF CAMPINAS - UNICAMP

2018 - 2022

- **Ranked 1st in the graduating class** with a grade point average exceeding 89%.
- Received the **SBC (Brazilian Computer Society) Award** for Outstanding Academic Achievement.
- Completed elective coursework in Pedagogy and **took advanced graduate-level courses** as an undergraduate.
- **Achieved 1st place in the 2018 national university entrance exam** (Vestibular) for admission.

Experience

Programming and Computational Thinking Teacher

PRÉ-VESTIBULAR E COLÉGIO ELITE

2022 - 2025

- **Spearheaded** the coordination and implementation of the school's new Computer Science academic track.
- **Designed and launched** the institution's inaugural programming curriculum from the ground up, authoring all course syllabi, learning activities, and assessment standards for all high school grade levels.
- **Instructed and mentored over 250 high school students** in programming fundamentals, utilizing a proprietary curriculum and a self-developed online learning platform.
- **Achieved a strong track record of student success**, with multiple former students gaining admission to elite undergraduate programs, including the Computer Science department at the University of Campinas (UNICAMP).

Undergraduate Researcher

FUNDED BY A FAPESP (SÃO PAULO RESEARCH FOUNDATION) RESEARCH GRANT

2019 - 2020

- Conducted a year-long undergraduate research project focused on **Algorithmic Game Theory**.
- **Highest possible evaluation** (Grade A) from the FAPESP scientific review committee.
- The research findings **resulted in a peer-reviewed publication** in an academic journal.

Volunteer Coordinator & Instructor

ALÉM DA ESCOLA PROJECT

2018 - 2019

- **Led the coordination** of a volunteer-run program to prepare students for admission into technical high schools (Etec/Cotuca).
- **Developed and taught** a specialized curriculum in advanced mathematics to prepare students.
- **Instructed** a separate track on programming and logic for students competing in the **Brazilian Informatics Olympiad (OBI)**.
- As coordinator, was responsible for structuring the academic calendar, organizing teaching materials, and mentoring fellow volunteer instructors.

Publications

- Romero, Ieremies V. F., Schouery, Rafael C. S. **Impacto de Técnicas de Pré-Processamento em Algoritmo de Branch-and-Price para o Problema de Coloração de Grafos X Encontro de Teoria da Computação** (2025).

- Silva, Francisco J. M. da, Miyazawa, Flávio K., Romero, Jeremias V. F., Schouery, Rafael C. S. **Tight bounds for the price of anarchy and stability in sequential transportation games.** *Journal of Combinatorial Optimization* 46, 10 (2023). doi:10.1007/s10878-023-01073-y

Events Organized

Universidade de Portas Abertas

LEAD COORDINATOR, INSTITUTE OF COMPUTING

2022 - 2025

- As the Lead Coordinator for three consecutive years, **orchestrated** all of the institute's activities for UNICAMP's largest annual public outreach event, attracting thousands of prospective high school students.
- **Managed** the complete event lifecycle, including planning lectures and live demonstrations, creating promotional materials, and **directing a team of over 140** student volunteers and staff members.

"From MC102 to Practice" Workshop

FOUNDER & ORGANIZER

2021

- **Conceptualized and independently organized** a two-day technical workshop to bridge the gap between theoretical programming concepts (from the introductory "MC102" course) and practical applications for more than 40 Chemical Engineering undergraduates.
- **Developed and delivered** all content, providing hands-on training in Python and its data science ecosystem (Pandas, Matplotlib, Jupyter Notebook) to enhance students' practical engineering toolkit.

Conferences & Workshops Attended

- MIP Workshop South America 2025, presenting my master's thesis research. Viña del Mar, Chile - Dec, 2025
- 10th Meeting on Theory of Computation (ETC). Maceió, Brazil - Jul, 2025
- 6th São Paulo Workshop on Optimization, Combinatorics, and Algorithms (WOPOCA). Campinas, Brazil - Dec, 2022

Student Representation

Institute of Computing Faculty Board (Congregação)

GRADUATE STUDENT REPRESENTATIVE

Jul, 2024 - Present

- Serve as the elected representative for all graduate students on the Institute's highest governing body, responsible for strategic planning, administrative oversight, and institutional direction.

Interdepartmental Council (Conselho Interdepartamental)

UNDERGRADUATE & GRADUATE STUDENT REPRESENTATIVE

Sep, 2023 - Jun, 2024

- Acted as the student voice on the collegiate council responsible for the Institute's budget approval, resource allocation, and financial oversight.

Undergraduate Studies Committee (Comissão de Graduação)

UNDERGRADUATE STUDENT REPRESENTATIVE

Apr, 2021 - Aug, 2022

- Collaborated with faculty to define the program's educational philosophy, learning outcomes, and pedagogical strategies.

Institute of Computing Faculty Board (Congregação)

UNDERGRADUATE STUDENT REPRESENTATIVE

Aug, 2020 - Apr, 2021

- Contributed to the development of the Institute of Computing's 2021-2025 Strategic Plan, representing the undergraduate student body in long-term strategic planning.

Awards & Honors

Award for Outstanding Academic Achievement

SBC (BRAZILIAN COMPUTER SOCIETY)

Second semester of 2022

- Awarded to students with an overall GPA exceeding 80% in their undergraduate Computer Science program.

Euler Award

INSTITUTE OF COMPUTING, UNIVERSITY OF CAMPINAS (UNICAMP)

Second semester of 2022

- Awarded to the top graduating student in the Computer Science program at UNICAMP.