Giovanna Kobus Conrado

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RESEARCH INTERESTS

Parameterized algorithms, structural parameters on graphs, static analysis, CFL reachability

EDUCATION

Doctor of Philosophy, Computer Science and Engineering   Sep 2021-May 2025
Hong Kong University of Science and Technology, Hong Kong
     Advisor: Amir Goharshady

Bachelor's Degree, Computer Science   Feb 2017-Jul 2022
University of São Paulo, Brazil
     Bachelor's Thesis "Algorithms for the 2D ham sandwich problem"

PUBLICATIONS

The Bounded Pathwidth of Control-flow Graphs   2023
Giovanna Kobus Conrado, Amir Goharshady, Chun Kit Lam
     Object-Oriented Programming, Systems, Languages & Applications 2023 (OOPSLA 2023)

Exploiting the Sparseness of Control-flow and Call Graphs for Efficient and On-demand Algebraic Program Analysis   2023
Giovanna Kobus Conrado, Amir Goharshady, Kerim Kochekov, Yun Chen Tsai, Ahmed Zaher
     Object-Oriented Programming, Systems, Languages & Applications 2023 (OOPSLA 2023)

PREPRINTS

Exploiting the Sparseness of Control-flow and Call Graphs for Efficient and On-demand Algebraic Program Analysis   2023
Giovanna Kobus Conrado, Amir Goharshady, Harshit Motwani, Sergei Novozhilov

Faster Treewidth-based Approximations for Wiener Index   2023
Giovanna Kobus Conrado, Amir Goharshady, Pavel Hudec, Pingjiang Li, Harshit Motwani

GRANTS

Hong Kong PhD Fellowship Scheme   2021 - 2024
    Fellowship established by the Research Grants Council of Hong Kong. The Fellowship provides an
annual stipend of HK$322,800 (approximately US$41,400). It is highly competitive with a less than
2% acceptance rate.

Redbird Scholarship Program   2021
    HKUST award in recognition of outstanding academic performance and research capacity.

COMPETITIONS AND AWARDS

ICPC World Finals   Oct 2021

IEEEextreme   Oct 2020
3rd place

Google CodeJam to I/O for Women   Feb 2020
2nd place

ICPC Latin America Regionals   Nov 2019
1st place

TEACHING AND SUPERVISION

Computational Geometry   Spring 2024
Hong Kong University of Science and Technology, Hong Kong
    Teaching Assistant, Prof. David Mount

Advanced Algorithms   Fall 2022
Hong Kong University of Science and Technology, Hong Kong
    Teaching Assistant, Prof. Amir Goharshady

ICPC Summer School   January 2022
Unicamp, Brazil
    Instructor

Design and Analysis of Algorithms   Spring 2021
Hong Kong University of Science and Technology, Hong Kong
    Teaching Assistant, Prof. Dimitris Papadias

Programming Challenges 2   Spring 2021
University of São Paulo, Brazil
    Instructor

Problem Solving Programming Strategies   Spring 2019
Texas A&M University, USA

Teaching Assistant, Prof. John Keyser

Introduction to Computer Science   Fall 2018
University of São Paulo, Brazil
    Teaching Assistant, Prof. Yoshiharu Kohayakawa

UFRGS Winter School   July 2018
Universidade Federal do Rio Grande do Sul, Brazil
    Instructor

Mathematics for Computer Science   Spring 2018
University of São Paulo, Brazil
    Teaching Assistant, Prof. Yoshiharu Kohayakawa

VISITS AND WORK EXPERIENCE

Aarhus University   July 2023-January 2024
Research Intern
    Internship under the supervision of Prof. Andreas Pavlogiannis. Worked mostly on problems related to interleaved Dyck reachability.

VTEX   March 2021-March 2023
Contractor
    Consulting for outreach activities for competitive programmers in Brazilian universities.

Malik Abdulaziz Foundation for Giftedness and Creativity   February 2023
Instructor
    Worked with training and selecting the Saudi Arabia IOI Team.

VTEX   Dec-Feb 2021
Software Engineering Intern
    Worked with GraphQL to create a customizable data model for an ecommerce platform.

Facebook London   May-Aug 2019
Software Engineering Intern
    Worked on the design and implementation of state machines for a tool for the creation of Augmented Reality effects.

Texas A&M University   Spring 2019
Student Intern
    Assisted in the creation of an online Information Retrieval course for the university.

CONFERENCES, WORKSHOPS AND SEMINARS ATTENDED

Algorithmic Enumerative Combinatorics   July 2022
Technische Universität Wien, Austria

Swedish Summer School in Computer Science 2022   June 2022
KTH Stockholm, Sweden
> Completed courses "The Method of Moments in Computer Science and Beyond" by Ankur Moitra and "Polyhedral Techniques in Combinatorial Optimization" by Ola Svensson

XVII Summer School in Discrete Mathematics   Jan 2022
CMM - Center for Mathematical Modeling — FCFM — Universidad de Chile, Chile
> Completed courses "Graph Turán problems" by Boris Bukh, "Prophets, Secretaries, and other online puzzles" by Shuchi Chawla and "Submodular functions in combinatorial optimization" by Jan Vondrak

Paulista Workshop in Optimization, Combinatorics and Algorithms   Nov 2020
> Worked on the complexity of seaching in random partial orders in the random graph model (problem proposed by Yoshikaru Kohayakawa)