Giovanna Kobus Conrado

Mail   kobusgiovanna@gmail.com

RESEARCH INTERESTS

Parameterized algorithms, static analysis, CFL reachability, weak memory models

EDUCATION

Doctor of Philosophy, Computer Science and Engineering   Sep 2021-Jul 2025
Hong Kong University of Science and Technology, Hong Kong
      Advisors: Amir Goharshady and Pedro Sander

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

Program Analysis via Multiple Context Free Language Reachability   POPL 2025
G.K. Conrado, A. H. Kjelstrøm, A. Pavlogiannis, J. van de Pol

PYRAMID: A Protocol for Private and Trustless Multi-level Marketing on the Blockchain   IEEE BCCA 2024
G.K. Conrado, A.K. Goharshady, K.N. Long Nguyen

A Better Approximation for Interleaved Dyck Reachability   SOAP 2024
G.K. Conrado, A. Pavlogiannis

Faster Treewidth-based Approximations for Wiener Index   SEA 2024
G.K. Conrado, A.K. Goharshady, P. Hudec, Pingjiang Li, H.J. Motwani

The Bounded Pathwidth of Control-flow Graphs   OOPSLA 2023
G.K. Conrado, A.K. Goharshady, C.K. Lam

Exploiting the Sparseness of Control-flow and Call Graphs for Efficient and On-demand Algebraic Program Analysis   OOPSLA 2023
G.K. Conrado, A.K. Goharshady, K. Kochekov, Y.C. Tsai, A.K. Zaher

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

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

IEEExtreme   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 Aug-
    mented Reality effects.

Texas A&M University   Spring 2019

Student Intern

    Assisted in the creation of an online Information Retrieval course for the university.

SCHOOLS AND WORKSHOPS ATTENDED

Czech Summer School in Discrete Mathematics   July 2024

Charles University, Prague, Czech Republic

    Attended courses "Combinatorial and algorithmic applications of twin-width" by Édouard Bonnet and "Poset inequalities" by Igor Pak

EPIT 2024 - Graphs and Algorithms: Conjectures   May 2024

CAES, Aussois, France

    Attended courses on width parameters, forbidden induced structures, coloring, distributed graph algorithms and games on graphs and hypergraphs

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)