

CARLOS VICTOR DANTAS ARAÚJO

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Carlos Araújo

WebPage

SOFT SKILLS

Communication Adaptability

Teamwork Decision-making

Problem-solving

HARD SKILLS

C/C++ Java Python R

Go LaTeX Git CI/CD

GAMA NS-2 SUMO

Stochastic Optimization

Heuristics Simheuristics

Mathematical Models

Operations Research

Combinatorial Optimization

Statistical Analysis

LIBRARIES

Cplex Gurobi AMPL Boost

Lemon Pandas Numpy

Matplotlib Flask scmamp

LANGUAGES

Portuguese: Native

English: Advanced

WORK EXPERIENCE

Senior Optimization Analyst | KaBuM!

Jan. 2022 - Actual

Limeira - SP

Researcher and Developer specialized in Warehouse and Routing.

- Involved in the design, management, and development of multiple optimization projects.
- Development of mathematical models, exact, and heuristic solutions for grouping, packing, and routing problems.

AI Researcher | I.Systems

Apr. 2021 - Dec. 2021

Campinas - SP

Researcher and developer specialized in Supply Chain, more specifically in production planning and job scheduling.

- Involved in the main heuristics development.
- Deploy of the solution in various cloud environments.

RESEARCH EXPERIENCE

Post-graduate | Laboratory of Optimization and Combinatorics

Mar. 2019 - Actual

Campinas - SP

- Study of stochastic optimization and development of simheuristic.
- Development of simulation-based instances for Arc Routing and Multicast Routing Problems.
- Formulation and development of Lagrangian relaxations, (meta)heuristics, and hybrid approaches.

Scientific Initiation | NEMo

Feb. 2017 - Dec. 2020

Russas - CE

- Formulation and development of relaxations and heuristics for the Maximally Diverse Grouping Problem.
- polyhedral study and development of heuristics using optimality cuts for the Max Cut Problem.
- Study of Data Science and Machine Learning algorithms, generating results applied in Kaggle competitions.

TEACHING EXPERIENCE

Assistant Professor | University of Campinas

Jan. 2020 - Dec. 2020

Campinas - SP

Assistant Professor of disciplines Programming Challenges I - MO521 and Introduction to Programming and Algorithms - MO102.

Assistant Professor | University of Ceará

Jan. 2017 - Dec. 2017

Russas - CE

Assistant Professor in the discipline of Introduction to Programming.

EDUCATION

Ph.D. in Computer Science | Combinatorial Optimization

📅 Mar. 2021 - Mar. 2025

📍 University of Campinas

- GPA: 4.0 on a scale of 4.0
- Advisors: Professor Ph.D. Fábio L. Usberti and Ph.D. Rafael K. Arakaki
- Courses: [Parallel Programming](#), [Algorithms and Complexity](#) and [Approximation Algorithms](#).

MSc. in Computer Science | Combinatorial Optimization

📅 Mar. 2019 - Mar. 2021

📍 University of Campinas

- GPA: 3.6 on a scale of 4.0
- Advisors: Professor Ph.D. Fábio L. Usberti and Professor Ph.D. Cid C. de Souza
- Dissertation: Formulation and Heuristics for the problem of Maximum Service in Multicast Routing with QoS Constraints - a Portuguese version is available in this [link](#)
- Courses: [Algorithms in Graphs](#), [Integer and Linear Programming](#) and [Combinatorial Optimization Topics](#).

B.S. in Computer Science

📅 Mar. 2015 - Dec. 2018

📍 University of Ceará

- GPA: 8.46 on a scale of 10.0
- Advisor: Professor Ph.D. Pablo L. B. Soares
- Conclusion Work: Utilização de desigualdades válidas baseadas em condições de otimalidade na construção de algoritmos heurísticos para o problema do corte máximo - a Portuguese version is available in this [link](#)

PUBLISHED WORKS

Araújo, C. V. D.; Andrade, M. D.; Usberti, F. L.; Arakaki, R. K. [A Prize-Collecting Approach for the Dengue Arc Routing Problem](#). Simpósio Brasileiro de Pesquisa Operacional (SBPO), 2022. Vol. 0 p. 0-0 (*Approved*)

Araújo, C. V. D.; Usberti, F. L.; de Souza, C. C. [Lagrangian Relaxation for the Problem of Maximum Service in Multicast Routing with QoS constraints](#). International Transactions in Operational Research (ITOR), 2022. Vol. 0 p. 0-0

Araújo, C. V. D.; Figueiredo, T. F. [O Problema Da Diversidade Máxima de Grupos: uma abordagem de programação linear inteira](#). L Simpósio Brasileiro de Pesquisa Operacional (SBPO), 2018.

Araújo, C. V. D.; Figueiredo, T. F. [Relaxação Lagrangiana Aplicada ao Problema da Diversidade Máxima de Grupos](#). Encontros universitários - UFC, 2018. Vol. 0 p. 0-0 ()

Araújo, C. V. D.; Soares, P. L. B. [Algoritmo Genético para o Problema Do Corte Máximo](#). Encontros universitários - UFC, 2018. Vol. 0 p. 0-0 (*Resumo*)

Araújo, C. V. D.; Soares, P. L. B. [Estudo de Abordagens para o problema de Corte Máximo](#). Encontros universitários - UFC, 2017. Vol. 0 p. 0-0 (*Resumo*)

PROFESSIONAL HONORS, AWARDS AND FELLOWSHIPS

- Best Scientific Initiation work in the [UFC University Meetings](#), 2018.
- Second place in the regional phase of the [International Collegiate Programming Contest \(ICPC\)](#), 2018.
- National winner of the [Portuguese Language Olympiad - Escrevendo o Futuro \(2008\)](#).