DANIEL DIAS OLIVEIRA

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OPTIMIZATION ENGINEER

SUMMARY OF QUALIFICATIONS

- Optimization expert specialized in Mixed-Integer-Programming and Metaheuristics
- Skillful in development with C++, Python, Java, PHP, HTML/CSS/JavaScript, and others
- Experience developing high-performance multi-threaded C++ code
- Familiar with cloud services including AWS, Azure and GCP
- Problem solving and analytical professional with strong communication and interpersonal skills

TECHNICAL SKILLS

C++ | Python | PHP | Java | GAMS | IBM CPLEX | Gurobi | IPOPT | OPL | JuMP | Pyomo | PuLP | Agile | SCRUM | Git | Jira | Gerrit | Jenkins | HTML | CSS | JavaScript | D3.js | MySQL | Excel | VBA | AWS | Cloud Services | Django | Regex | Confluence | Unit tests | Matlab | Minitab | Multithreading (OpenMP) | Machine Learning | Deep Learning | TensorFlow | Keras | PyTorch | Matplotlib | Pandas | NumPy | LaTEX | |

WORK EXPERIENCE

Opus One Solutions from GE Digital (Energy Distribution Software) **Jan 2021 - Present**
Optimization Engineer

- Researched, implemented and improved complex optimization models for Power Distribution
- Optimized existing routines, implemented new business rules, reviewed, and tested code
- Created and implemented algorithms for linear, non-linear, and mixed integer non-linear programming
- Communicated with different teams to clarify questions about our tools and solutions
- Analyzed and debugged complex Power Distribution Systems
- Helped raise requirements for new features and break the work down into tickets
- Prototyped, developed and tested innovative ideas and algorithms
- Designed and implemented APIs

Technical environment: Python, GAMS, IPOPT, AWS, Flask, Git, Gitlab, Jira, and Confluence.

RideCo (Ridesharing Solutions) **Jul 2020 – Oct 2020**
Software Engineer

- Designed, implemented, and benchmarked new procedures for the Python optimization engine
- Improved existing tools, reviewed, and tested coding
- Expanded systems' capabilities to new features and use-cases

Technical environment: Python, Django, Git, Gerrit, Jenkins, Jira, and Confluence.

University of Waterloo **2017 - 2020**
Teaching Assistant

- Assisted in the Deterministic Operations Research Models and Introduction to Optimization courses
- Lectured Python and Julia programming
- Supported students on a variety of assignments and projects
- Planned and developed class materials and presentations

EDUCATION

Master of Mathematics in Combinatorics and Optimization | 2020
University of Waterloo
Relevant Coursework: Approximation Algorithms, Computational Discrete Optimization, Integer Programming, Big Data and Integer Programming, Convex Optimization

M.Sc. in Industrial Engineering with emphasis in Operations Research | 2015
B.Sc. in Industrial Engineering | 2013
Federal Fluminense University

PROJECTS AND AWARDS

Published Paper - "An Improved Branch-Cut-and-Price Algorithm for Parallel Machine Scheduling Problems'', INFORMS Journal on Computing
Gold Medal in Kaggle's Santa's Stolen Sleigh Optimization Challenge - Multithreaded C++ Iterated Local Search Algorithm
Best Paper Award in the Brazilian Symposium on Operations Research 2016
Maintainer of the Capacitated Vehicle Routing Problem Library (Django backend)