DANIEL OLIVEIRA
OPTIMIZATION ENGINEER

(226) 505 9031 | ddoliveira@uwaterloo.ca
Cambridge, ON | danieloliveira56.github.io
linkedin.com/in/danieloliveiramsc

Experienced Optimization Engineer with a strong background in Mixed-Integer Programming.

TECHNICAL SKILLS

Programming: Python, C++, Angular, Unix Utilities, HTML, CSS, Typescript
Optimization: CPLEX, Gurobi, IPOPT, GAMS, JuMP, Pyomo, PuLP, OPL
Data Analysis and Visualization: Pandas, NumPy, p5.js, D3.js, Matplotlib, SQL, Excel, VBA
Other: TensorFlow, Keras, PyTorch, Regex, Unit testing, Matlab, Parallel programming (OpenMP), LaTEX, Git

PROFESSIONAL EXPERIENCE

GE Vernova   **Jan 2021 - Present**
Optimization Engineer

- Worked on the core optimization engine responsible for solving large and highly non-linear problems.
- Designed and implemented complex features for an Energy Distribution Management system.
- Benchmarked and debugged alternative mathematical formulations for optimization problems.
- Consistently improved the performance of the system and mathematical model.
- Designed and implemented APIs to enable integration with external systems.
- Collaborated with cross-functional teams to provide technical guidance.
- Contributed to product development by raising requirements for new features and organizing future work.

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

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

Master of Science in Industrial Engineering with emphasis in Operations Research   **2015**
Bachelor of Science in Industrial Engineering   **2013**
Federal Fluminense University

PROJECTS AND AWARDS

Kaggle Competitions Master (Data Science Competitions) – kaggle.com/danieldias
Published Paper - "An Improved Branch-Cut-and-Price Algorithm for Parallel Machine Scheduling Problems'', INFORMS Journal on Computing, 2019
Published Paper – "The price-elastic knapsack problem", Omega, 2024
Published Paper – "Three-Phase Distribution Locational Marginal Pricing for Competitive Electricity Markets with Distributed Generators and Flexible Loads", IEEE ISGT, 2022