Iago Leal de Freitas

CONTACT

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WORK EXPERIENCE

Systems Development Analyst   DEC 2020–CURRENT
PSR Energy Consulting and Analytics

Graduate Student Researcher   2017–2019
COPPETEC Foundation

    Software development and research in mathematical optimization. Technical collaboration agreement between the University (UFRJ) and the Brazilian Independent System Operator (ONS). Project IM-21780 from COPPETEC. In this project I worked in modelling the Brazilian hydrothermal system using disjunctive constraints and was involved in the development of a Julia prototype and two technical reports.

Undergraduate Student Researcher   2016–2017
Rio de Janeiro Federal University

    During Bachelor's degree, I worked in two scientific initiation projects related to geometry and data science:

- Discrete Hodge Theory and Statistical Rankings,

- The Geometry of a Falling Cat and other Deformable Bodies.

Technical High School Researcher   2012–2013
Federal Center for Technological Education of Rio de Janeiro

    Applications of the Lua programming language to Interactive environments, such as digital TV and computer games.

EDUCATION

Master's degree in Mathematics   2017–2019
Federal University of Rio de Janeiro

    Thesis: *Convexification by Averages*
    GPA: 9.9/10
    Master's degree in stochastic programming with emphasis on computationally feasible methods to deal with multistage problems and on convex approximations of mixed-integer problems.

Bachelor's degree in Applied Mathematics   2014–2017
Federal University of Rio de Janeiro

    Graduated with emphasis in Scientific Programming.
    GPA: 9.1/10

Technical high school in Informatics   2011–2013
Federal Center for Technological Education of Rio de Janeiro

PROGRAMMING LANGUAGES

Julia ●●●●●   Python ●●●●○   Lua ●●●●●
C ●●●○○   Haskell ●●●○○   Scheme ●○○○○

PROGRAMMING SKILLS

Familiarity with Unix environments and the GNU tool chain.
I have experience working with stochastic optimization using the Python library `cvxpy`
and the Julia libraries `JuMP.jl` and `SDDP.jl` together with the solvers `GLPK` and `Gurobi`.
Experience modeling physical problems and differential equations using the `numpy` stack
for scientific programming and the Julia library `DifferentialEquations.jl`.

LANGUAGES

Portuguese **native**   French ●●●○○
English ●●●●●   Spanish ●●○○○

PRESENTATIONS

Discrete Hodge Theory and Statistical Rankings `2018`
Academic Integration Week — UFRJ
    Honorable Mention.

The Geometry of a Falling Cat and other Deformable Bodies `2017`
Academic Integration Week — UFRJ

Virtual Motors with Neural Network Artificial Intelligence `2013`
Academic Extension Week — CEFET/RJ
    2nd place in Computer Science.

Study and Applications of Lua to Digital Television `2013`
Academic Extension Week — CEFET/RJ

A Framework for Creating RPG Games `2013`
Academic Extension Week — CEFET/RJ
    Poster presentation.

Study and Applications of Lua to Interactive Environments `2012`
Academic Extension Week — CEFET/RJ
    1st place in Computer Science.