Iago Leal de Freitas

CONTACT

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EDUCATION

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

Thesis: *Convexification by Averages*

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.

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

PROJECTS

Technical Collaboration with Brazilian System Operator 2017–2019
COPPETEC Foundation

During my Master's, I participated in a technical collaboration agreement between the University 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.

- Convergence acceleration for multistage stochastic programs.
- Use of disjunctive constraints to model operational policies.

Discrete Hodge Theory and Statistical Rankings 2016–2017
Scientific Initiation

The Geometry of a Falling Cat and other Deformable Bodies 2016–2017
Scientific Initiation

Study and Applications of the Lua Programming Language to Interactive Environments 2012–2013
Scientific Initiation

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 the 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.