

JOÃO MIGUEL MACHADO

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Paris, France

EDUCATION

PhD - Mathématiques Appliquées

Université Paris-Dauphine/Mokaplan (INRIA)

Oct 2021 – Oct 2024

★ Advisor: Antonin Chambolle and Vincent Duval.

M2 Optimisation

Université Paris-Saclay & IPP (France)

Sept 2020 – June 2021

★ Advisor: Antonin Chambolle and Vincent Duval.

M.Sc. in Mathematics

Fundação Getulio Vargas (Brasil)

Mar 2019 – June 2020

★ Advisor: María Soledad Aronna.

B.Sc. in Electrical Engineering

Instituto Militar de Engenharia (Brasil)

Jan 2014 – Oct 2018

PROFESSIONAL EXPERIENCE

Research internship

Inria - Mokaplan

April 2021 – Sept 2021 Paris

Research internship

Inria - COMMANDS/CMAP

Setp 2017- Dec 2017 Palaiseau

Teaching Assistant

CEREMADE - Univ. Paris-Dauphine

Jan 2022- present Paris

Teaching assistant in analysis courses.

Teaching Assistant

EMAp - FGV

Mar 2017- Dec 2023 Rio de Janeiro

Teaching assistant in various courses: Real and Functional Analysis, Measure Theory, Probability and Stochastic Calculus.

CODING SKILLS

Python

Julia

Matlab/Scilab

C++

LANGUAGES

Portuguese (Native)

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English (C2)

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French (C1)

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PUBLICATIONS

References

- Chambolle, A., Duval, V., & Machado, J. M. (2023a). 1d approximation of measures in wasserstein spaces. *arXiv preprint arXiv:2304.14781*.
- Chambolle, A., Duval, V., & Machado, J. M. (2023b). The total variation-wasserstein problem: A new derivation of the euler-lagrange equations. In *International conference on geometric science of information* (pp. 610–619). Springer.
- Machado, J. M. (2023). Γ -convergence approximation of 1-dimensional shape optimization problems. *In preparation*.
- Aronna, M. S., & Machado, J. M. (2021). The shooting algorithm for partially control-affine problems with application to an sirs epidemiological model. *arXiv preprint arXiv:2103.06339*.

AWARDS

- Best poster award - LACIAM 2023 (Latin American Congress on Applied and Industrial Mathematics)
- Bourse Sophie Saint German 2020 - FMJH (Fondation des Mathématiques Jacques Hadamard)

TALKS

- Calculus of Variations and Applications : 19–21 Jun 2023, Université Paris-Cité (Campus des Grands Moulins)

ORGANIZATION OF EVENTS

- Organizer of the monthly seminar of the Mokaplan research team <https://team.inria.fr/mokaplan/mokameetings/>
- Workshop on optimal control and mean field games - Escola de Matemática Aplicada FGV EMap, Rio de Janeiro, October 14-18, 2019 <https://sites.google.com/view/control-mfg-rio2019>