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J. Frederico Carvalho

Personal information

Full name **João Frederico Pinto Basto de Carvalho**.
Birth date **July 19th, 1988**.
Birth place **Restelo, Lisboa, Portugal**.
Nationality **Portuguese**.

Education

2015 — Pres. **Doctoral Studies in Computer Science**, *KTH*, Stockholm,Sweden.
Advisors: Danica Kragic, Florian T. Pokorny, Mikael Vejdemo-Johansson
2012 — 2013 **MSc. in Applied Mathematics**, *IST*, Lisbon, *17/20* .
2012 — 2013 **Erasmus**, *Kungliga Tekniska Högskolan (KTH)*, Stockholm, Sweden.
2008 — 2012 **BSc. in Applied Mathematics**, *IST*, Lisbon, *14/20* .

Master thesis

Title *A not so short introduction to Grothendieck topoi*
Supervisors Pedro Resende (IST), Wojtek Chachólski (KTH)

Languages

Portuguese Fluent **English** Fluent **French** Basic
Swedish Intermediate **Spanish** Intermediate

Supplementary education

Dec. 2014 **Scientific writing workshop**, *IST*.
Jul. 2015 **TOPDRIM — Summer school in theoretical computer science**, *University of Camerino, Camerino, Italy*.

Grants and positions

02'15 — 09'15 **Research engineer**, *CVAP / KTH*, Research in topological methods for problems in robotics.
02'14 — 08'14 **Udergraduate research grant**, *ISR / IST*, Reasearch in linear systems theory.

Publications

J. F. Carvalho, S. Pequito, A. P. Aguiar, S. Kar, and K. H. Johansson. Composability and controllability of structural linear time-invariant systems: Distributed verification. *Automatica*, 78(Supplement C):123 – 134, 2017.

J. F. Carvalho, S. Pequito, A. P. Aguiar, S. Kar, and G. J. Pappas. Static output feedback: On essential feasible information patterns. In *2015 54th IEEE Conference on Decision and*

Control (CDC), pages 3989–3994, Dec 2015.

J. F. Carvalho, M. Vejdemo-Johansson, D. Kragic, and F. T. Pokorny. Path clustering with homology area. In *2018 IEEE International Conference on Robotics and Automation (ICRA)*, pages 7346–7353, May 2018.

J. Frederico Carvalho, Mikael Vejdemo-Johansson, Danica Kragic, and Florian T. Pokorny. An algorithm for calculating top-dimensional bounding chains. *PeerJ Computer Science*, 4:e153, May 2018.

Anastasiia Varava, J. Frederico Carvalho, Pokorny F. T., and Danica Kragic. Caging and path non-existence: a deterministic sampling-based verification algorithm. In *The 18th Robotics Research, International Symposium ISRR (To appear)*, 2017.