# Joao Matias

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**EDUCATION**

**The Pennsylvania State University**, State College, PA, USA
- Ph.D. in Mathematics, Aug 2012 – Aug 2018 (Expected)

**Instituto Superior Técnico (IST)**, Technical University of Lisbon (UTL), Lisbon, Portugal
- Master in Applied Mathematics, Sep 2010 – Jul 2012
- BSc in Applied Mathematics and Computation, Sep 2007 – Jul 2010

**RESEARCH AREAS**

Combinatorics, Graph Theory and interactions with Number Theory.

**PROGRAMMING LANGUAGES**

- C, C++, Python, HTML, LaTeX
- Participation in various competitive programming websites including *Google Code Jam*, *Codeforces* and *Hackerrank*.

**SCIENTIFIC SOFTWARE**

Mathematica, MatLab, Sage, Git

**PROFESSIONAL DEVELOPMENT**

**Penn State World Campus**
- *Graduate Student Online Teaching Certificate*

**Coursera**
- *HTML, CSS, and Javascript for Web Developers*, offered by the Johns Hopkins University
- *Python Data Structures*, offered by the University of Michigan
- *Using Databases with Python*, offered by the University of Michigan
- *Algorithms on Graphs* and *Algorithms on Strings*, offered by the University of California, San Diego
- *Machine Learning*, offered by Stanford University

**Udacity**
- *Deep Learning*, offered by Google

**TEACHING EXPERIENCE**

**THE PENNSYLVANIA STATE UNIVERSITY**

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|---|---|
| Math 21 (College Algebra) | Spring 2013 |
| Math 110 (Business Calculus - Recitation) | Fall 2013 |
| Math 26 (Trigonometry) | Fall 2014, Spring 2015 |
| Math 230 (Calculus and Vector Analysis) | Fall 2015 – Spring 2018 |

**SCIENTIFIC PUBLICATIONS**

**JOURNALS**

P. Lopes, J. Matias, *Minimum number of colors: the Turk's head knots case study*, Discrete Math. Theor. Comput. Sci. 17 (2015), no. 2, (arXiv:1002.4722).

P. Lopes, J. Matias, *Minimum Number of Fox Colors for Small Primes*, J. Knot Theory Ramifications, **21** (2012) no. 3, (arXiv:1001.1334).

**OTHER EXPERIENCE**

- Colaboration in *Escola Aleph (Aleph School)* preparing high school students for Mathematical Olympiads. 2008 – 2011
- Guide in the *XXVI*, *XXVII*, and *XXVIII Portuguese Mathematical Olympiads*, 2008 – 2010

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**FELLOWSHIPS**

- **Teaching Assistantship**, The Pennsylvania State University Aug 2012 – May 2018
- **Scientific Initiation Fellowship (BIC)**, Department of Mathematics, IST, UTL, Lisbon, Portugal
  Project in Algebraic Geometry under the guidance of Professor Margarida Mendes Lopes Nov 2010 – May 2011
- **Initiation to Research Fellowship (BII)**, Center of Linear and Combinatorial Structures (CELC), FCUL, Lisbon, Portugal
  Project in Algebraic Number Theory under the guidance of Professor Ana Luísa Correia Nov 2009 – May 2010
- **Program "Novos Talentos em Matemática" (New Talents in Mathematics)**, Calouste Gulbenkian Foundation, Portugal
  Project in Knot Theory under the guidance of Professor Pedro Lopes 2008 – 2009
  Project in Plane Symmetries under the guidance of Professor Leonor Godinho 2007 – 2008

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**OTHER AWARDS**

- Ibero-American Mathematical Olympiad for university students
  Bronze and Silver medals, Sep 2008, Sep 2009
- Bronze medal in the 48$^{th}$ International Mathematical Olympiad Jul 2007
- Ibero-American Mathematical Olympiad
  Bronze and Silver medals, Sep 2006, Sep 2007

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**HOBBIES** Running, reading and puzzle solving.