

Francisco Machado

Resume

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Education

- 2013–2016 **Massachusetts Institute of Technology**,
Candidate for Bachelor of Science Degree in Physics,
Cambridge, MA,
GPA – 5.0/5.0.
- 2012–2013 **Universidade de Coimbra**,
Candidate for Bachelor of Science Degree in Physics,
Coimbra, Portugal,
GPA – 5.0/5.0.

Experience - Research

- 2014–Present **Undergraduate Research**, MIT KAVLI INSTITUTE FOR ASTROPHYSICS AND SPACE RESEARCH, Cambridge, Massachusetts.
Research in spectral data from galaxies from a simulation of the galaxy
 - Analyzing how to make use of the simulated galaxies informations to better understand the properties of observable galaxies.
 - Developing tools that allow the matching between simulated and observed galaxies.
- 2014–2014 **Undergraduate Research**, MIT AEROSPACE COMPUTATIONAL DESIGN LAB, Cambridge, Massachusetts.
Research in optimization of a numerical simulation of a stationary fluid flow
 - Analyzed and discovered the source of the major slow down in the program's run time.
- 2012–Present **Undergraduate Research**, UNIVERSIDADE DE COIMBRA - PHYSICS DEPARTMENT, Coimbra, Portugal.
Research in the topic of the dynamics of proteins and their protein reporter using computer simulations and stochastic models.
 - Developed the simulation code used to run the simulations in the project.
 - Compiled and analyzed the data, presenting it at two conferences
 - Currently working on broadening the search parameters of the simulation and implementing different protein behaviors in order to analyze different outcomes and later compare them with experimental data.

Experience - Work

- 2014 **Intern**, MEMSQL, San Francisco, US.
 - Worked directly on their C++ codebase
 - Developed and implemented features that are now available to customers

Skills

Advanced C, C++, PYTHON, Basic Algorithms, L^AT_EX, EMACS
Intermediate Data Analysis, Julia
Basic JAVA, OCTAVE