

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

- 2015–Present **Undergraduate Research**, MIT CENTER FOR MATERIAL SCIENCE AND ENGINEERING, Cambridge, Massachusetts.
Research in transport properties of electrons in low-dimensional materials.
- Fabrication of devices which includes selection of proper material flakes, their characterization and assembly in final device to be used in measurements.
 - Developing new device configurations to allow the better measurement of transport properties.
- 2014 **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 **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.
- 2012–2013 **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
 - Presented results in poster format at the International Conference on Stem Cells for Drug Screening and Regenerative Medicine (2013)

Experience - Work

- 2014 **Summer Intern**, MEMSQL, San Francisco, US.
- Worked directly on their C++ codebase
 - Developed and implemented features that were shipped to customers promptly.
- 2013 **Senior Developer**, JEKNOWLEDGE, Coimbra, Portugal.

2012–2013 **Junior Developer**, JEKNOWLEDGE, Coimbra, Portugal.

Active Member of the Technology Department.

- Helped on the development of a human body detection software to analyze the correct movement of the body in various exercises.
- Developed a glove prototype of a new product using Arduino technology.
- Helped in the development of the data acquisition software for a new product in a start-up.

Summer Schools

2015 Novos Talentos Em Matemática Dynamical Systems Summer School

Awards

2012 Bronze Medal at the International Physics Olympiads

2012 Bronze Medal at the International Olympiads of Informatics

2013 Bronze Medal at the ACM SouthWestern Regional Contest

2012 Gold Medal at the Portuguese University Programming Marathon

2011 Honorable Mention at the IberoAmerican Mathematics Olympiads

2011, 2012 Silver Medal at the Portuguese Mathematics Olympiads

2012 Third Place in the Portuguese Olympiads of Informatics

Languages

Portuguese Mother tongue

English Fluent

Spanish Basic

French Basic

German Basic