Francisco Machado

Resume

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Education

2013–Present	**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 AEROSPACE COMPUTATIONAL DESIGN LAB, Cambridge, Portugal.
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.
- Currently working on solutions to overcome the problems encountered.

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

2013–2013 **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 aquisition software for a new product in a start-up.

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

Skills

Advanced	C, C++, PYTHON, Basic Algorithms
Intermediate	LaTeX, EMACS, Basic Data Analysis
Basic	JAVA, OCTAVE

Relevant Classes

2013	**Physics Laboratory**	*Introduction to experimental physics with data analysis emphasis*
2013	**Quantum Mechanics and Quantum Computation - edX**	*Introductory class*
2013	**Differential Equations**	*Solutions for ODE systems and introduction to nonlinear systems*
Currently	**Introduction to Numerical Analysis**	

Languages

Portuguese	Mothertongue
English	Fluent
Spanish	Conversational