Giovanni Iannelli

Curriculum Vitae

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Personal informations

Birth	12 August 1992, Bolzano (Bozen), Italy
Citizenship	Italian
Status	Graduate student

Education

2015-Present **Master student in Theoretical Physics**, *Università di Pisa*, Italy.
During my first year of Master's studies in Theoretical Physics I'm focusing on Quantum Field Theory, Statistical Physics and their computational aspects

2011-2015 **Bachelor's Degree in Physics**, *Università di Pisa*, Italy.

Grade 103/110

Thesis *Bosons in an harmonic trap: Bose-Einstein condensation and a Path Integral Monte Carlo algorithm*

Supervisor Ettore Vicari, professor at Università di Pisa

Description I discussed the Bose-Einstein Condensation in a system of non interacting bosons affected by an harmonic potential. I showed that the partition function of the system could be expressed in terms of Feynman Path Integrals. Considering a Path Integral in Statistical Mechanics as a weighted sum of paths, I presented a method to sample the paths corrisponding to the positions (or momenta) of bosons

2006-2011 **High School Diploma**, *Liceo Scientifico Leonardo da Vinci*, Milan, Italy.

Grade 84/100

Programming experience

C/C++ I studied C language in university, as it is part of the program of my Bachelor's Degree. Then, I studied C++ to write simple object-oriented programs and make usage of ROOT (CERN) libraries

FORTRAN 90 I've used FORTRAN 90 language and OpenMP and MPI on top of it to write parallel PDE solvers, Linear Algebra operations and Monte Carlo simulations

Python I've used Python for scripting, Python Scientific packages (Numpy, SciPy) to perform quick-to-write computations, Matplotlib for 2D plotting and Mayavi for 3D plotting

Git I've a good knowledge of Git VCS, and, throught my university experience, I've got experience in collaborating with other people to the same project

OS I've experience in Linux based operative systems, especially Arch Linux based and Debian based, and I've confidence with Bash shell commands

Others I've experience in text editing with VIM, typesetting with LaTeX, auto-building with Makefile, symbolic computing with Wolfram Mathematica, and plotting with Gnuplot

Languages

Self-assessment European level CEFR (C2 maximum evaluation)

		Understanding		**Speaking**		**Writing**
Italian	Mother language	*C2*	*C2*	*C2*	*C2*	*C2*
English	Advanced	*B2*	*C1*	*B2*	*B2*	*C1*

Other courses and achievements

2010 **First Certificate in English**, *University of Cambridge*.
I took this exam when I was in high school, and it certificates the Council of Europe Level B2 in English

2015 **Statistical Mechanics, Algorithms and Computation**, *École Normale Supérieure*, Coursera MOOC, Link to course page.
This online course is an introduction to Monte Carlo algorithms and their applications in Statistical Mechanics and Quantum Statistical Mechanics using the Path Integral and Density Matrixes framework. At the end of this course, an exam was scheduled, and I completed it as it is stated in this coursera.org Certificate

2015 **High Performance Scientific Computing**, *University of Washington*, Coursera MOOC, Link to course page.
After an introduction to Unix like shell, Git, Python, FORTRAN 90, makefile, OpenMP and MPI FORTRAN API, this online course aims to teach how to write parallelized programs to solve typical scientific computing problems such as Linear Algebra optimizations, PDE solving and Monte Carlo simuations. During this course, there were homeworks and project assignments, but there wasn't a final exam