

Personal information

Born June 14, 1989 in Varese.
Currently based in Torino.

Experience

- Apr 2015 - ongoing **Research Engineer**, *Noesis Solutions*, Novara.
Full-time intern during scholarship and PhD.
Responsible of technical activities for the following research projects:
- **MACH**: MAssive Calculations on Hybrid systems, ITEA2 project 12002. The goal of the project is to develop a DSeL and a computation framework that allows to access hybrid hardware acceleration without specific expertise.
 - **Fortissimo 2**: Horizon 2020-FoF-2015 project. FF2 is a collaborative project that will enable European SMEs to be more competitive globally through the use of simulation services running on a High Performance Computing cloud infrastructure.
 - **CloudFlow**: FP7, ICT for Manufacturing SMEs (I4MS) project. Cloudflow will enable the remote use of computational services distributed on the cloud, seamlessly integrating these within established engineering design workflows and standards.

Education

- 2006 Exchange student at Tauranga Boy's College, Tauranga, New Zealand.
2008 High school diploma achieved at ITI 'L. Cobianchi', Verbania. Final mark 100/100.
2006-2008 Attended Cisco CCNA course.
2008 Scholarship winner, Società Italiana di Fisica - Progetto Lauree Scientifiche.
2008-2014 Student at Collegio Universitario 'R. Einaudi', Torino.
2009 Attendance to Alfaclass summer school of mathematics, granted by Fondazione CRT.
2011 **Bachelor's Degree in Physics**, *Università degli Studi di Torino*, 104/110.
Thesis: *Non-globally metric connection within the EPS formalism*.
Supervisor: Lorenzo Fatibene, Mathematics Dept., Università di Torino
2015 **Master's Degree in Physics**, *Università degli Studi di Torino*, 104/110.
Thesis: *High Performance and Parallel Computing Applications for High Energy Physics*.
Supervisor: Marco Aldinucci, Computer Science Dept., Università di Torino
2015 **Scholarship winner**, *Università degli Studi di Torino*, Computer Science Dept..
Topic: *Applied Machine Learning on Hybrid Hardware for Engineering*.
Granted by Noesis Solutions NV.
2015-ongoing **PhD student**, *Università degli Studi di Torino*, Computer Science Dept..
Scholarship granted by Noesis Solutions.
Supervisor: Marco Aldinucci, Computer Science Dept., Università di Torino
Topic: *The PhD track is aimed at developing and deploying machine learning methods on heterogeneous hardware for the solution of engineering and design problems posed by high dimensional systems*.
2016 Bertinoro International Spring School
Algorithmic methods for mining large graphs.
Models and Languages for Service-Oriented and Cloud Computing.
2016 RegML 2016 PhD School
Regularization methods in Machine Learning.

- 2016 ACACES 2016 school
Performance evaluation and benchmarking.
Efficient GPU computing.
Building high-level compiler optimizers and code generators for the multicore era.
Data center power management: Green, efficiency and beyond.

Fields of interest

- High Performance Computing.
- Machine learning and data analytics techniques.
- Virtual clusters.
- Distributed computing and cost-effective architectures.

IT Skills

- Programming **C/C++**, **Python** and basics of **Fortran**.
Data analysis Mathematica, ROOT. Foundations of Machine Learning.
HPC MPI, Pthread, OpenMP and FastFlow. GPU computing, basics of CUDA C++.
Systems Experience with Linux (Ubuntu, CentOS), Windows and OS X.
Cloud Basics of Openstack and cloud deployment orchestration.
Networking TCP/IP, routing protocols, switching and Cisco IOS. Basics of Server configuration.
MS Office 'ECDL' obtained in 2008.
Adobe suite Digital Workflow with Lightroom, basics of Photoshop.

Foreign Languages

- Italian Mother tongue.
English Level C1, CAE certificate achieved in 2009.
French Elementary.

Additional experiences

- 2006 Cinema and animation workshop attended at 'the Nerve Centre', Derry, NI.
2009 Employed as a volunteer during the IAAF Athletics World Championship in Berlin.
2012 'General English Super Intensive' C1 level course at Alpha College of English, Dublin.
2012-2014 Events and commercial photographer for Collegio Universitario 'R. Einaudi' of Torino.
2013 Photographer for OASIS Project: archaeological expedition to Kharga Oasis, Egyptian Western Desert, funded by Fondazione Collegio delle Università Milanesi and American University in Cairo.

Other Interests

- Athletics Competitive level from 1997 to 2012.
Scuba Diving PADI Advanced Open Water Diver license obtained in 2005.

Publications

P. Viviani, M. Aldinucci, and R. d'Ippolito. An hybrid linear algebra framework for engineering. In *Advanced Computer Architecture and Compilation for High-Performance and Embedded Systems (ACACES) – Poster Abstracts*, Fiuggi, Italy, July 2016.

P. Viviani, M. Aldinucci, R. d'Ippolito, J. Lemeire, and D. Vucinic. A flexible numerical framework for engineering - a response surface modelling application. In *10th Intl. Conference on Advanced Computational Engineering and Experimenting (ACE-X)*, 2016.

P. Viviani, M. Torquati, M. Aldinucci, and R. d'Ippolito. Multiple back-end support for the armadillo linear algebra interface. In *In proc. of the 32nd ACM Symposium on Applied Computing (SAC)*, Marrakesh, Morocco, Apr. 2017.

Other

2016 Program Committee member, *16th IEEE International Conference on Scalable Computing and Communications (ScalCom 2016)*