Open Post-doc position at Politecnico di Milano on Machine Learning

- **Deadline**: Nov. 15, 2017
- **Career levels**: PostDoc
- **Keywords**: Networking / Distributed computing, GPUs / Heterogeneous Systems, Runtime performance / Optimisation, Machine Learning / AI

Open Post-doc Positions @ Politecnico di Milano Dipartimento di Elettronica, Informazione e Bioingegneria

Within the project: ATMOSPHERE (Adaptive, Trustworthy, Manageable, Orchestrated, Secure, Privacy-assuring, Hybrid Ecosystem for REsilient Cloud Computing)

Research teams: Dependable Evolvable Pervasive Software Engineering (DEEPSE) group Advanced Network Technologies Laboratory (ANT lab)

Start date: December 1st, 2017

Type of contract: Fixed term contract (CDD) for 12 months. The contract can be extended up to 24 months.

Two open positions are available

- **CLOUD SYSTEMS**: candidates with experience on machine learning and, possibly, performance modelling and assessment of cloud and big data systems with a background on performance benchmarking.
- **SOFTWARE DEFINED NETWORKS**: candidates with experience on research and experimental testbeds of SDN architectures, controllers, and applications

Gross salary: 26,000-38,000 EUR according to the experience.

Subjects:

- Machine Learning, Hybrid Machine Learning and Performance Modelling of Cloud systems
- Software Defined Networking

Politecnico di Milano is one of the Technical Universities in Italy, it was established in 1863 and it is ranked as one of the most outstanding European universities in Engineering, Architecture and Industrial Design. In many disciplines it is regarded as a leading research institution worldwide. The number of students enrolled in all campuses is approximately 42,000.

The DEpendable Evolvable Pervasive Software Engineering (DEEP-SE) group works within the Dipartimento di Elettronica e Informazione http://www.deib.polimi.it/). It has been ranked among the "internationally excellent" groups in the software engineering area by [Ren and Taylor, Commun. ACM 50, 6, Jun.2007]. This result has been confirmed by an international peer review panel requested by Politecnico di Milano. The research activities of the DEEP-SE group
(http://deepse.dei.polimi.it/) focus on techniques, tools and frameworks for the development of complex software systems. It encompasses a variety of aspects of such systems, ranging from modeling and analysis issues in the early phases of their development, to issues related to their implementation and runtime management with particular emphasis on middleware solutions for self-management, resource allocation and optimization. The group includes 14 faculties, 9 Post-docs, and 10 PhD students.

The ANTLab (http://www.antlab.polimi.it) team has a long lasting experience on the use of advanced mathematical tools for network optimization and traffic management both for wired and wireless networks. It has also quite some experience in the prototype implementation of SDN-based network solutions. ANTLab has been involved so far in 4 H2020 projects, including BEBA (Behavioural Forwarding) on advanced SDN solutions with stateful data planes. ANTLab hosts a joint laboratory with Vodafone for testing and validating solution for traffic analysis and engineering and 4G/5G radio access networks. The team includes 4 faculty members, 9 PhD students, 2 post-docs, and 10-15 master students.

In this context, expressions of interest are being sought for two Post-doc positions in the context of the ATMOSPHERE (Adaptive, Trustworthy, Manageable, Orchestrated, Secure, Privacy-ensuring, Hybrid Ecosystem for REsilient Cloud Computing) project (https://www.linkedin.com/in/atmosphere/), starting on November 1st 2017 and running for 24 months. ATMOSPHERE is a collaborative project funded under the EUB-01-2017 topic on Cloud Computing and includes eight European partners (Politecnico Di Milano; Universitat Politècnica de València, which is also the project coordinator from the European side; Trust-IT Services Ltd; Universidade de Coimbra; Technische Universität Dresden; University of Piraeus Research Center; QUantitative Imaging Biomarkers In Medicine; DELL-EMC) and seven Brazilian partners (Universidade Federal de Campina Grande, which is also the project coordinator from the Brazilian side; Universidade Federal de Minas Gerais; Universidade Estadual de Campinas; Universidade Federal do Amazonas; Universidade de Brasilia; DELL-EMC; KUNUMI).

ATMOSPHERE aims at the design and development of an ecosystem comprised of a framework and a platform enabling the implementation of next generation trustworthy cloud services on top of an intercontinental hybrid and federated resource pool. The framework considers a broad spectrum of trustworthiness properties and their measures. The platform supports the development, build, deployment, measurement and evolution of trustworthy cloud resources, data management services and data processing services, and is demonstrated on a sensitive scenario consisting of a cloud-enabled secure and trustworthy application for distributed telemedicine exploiting also GPGPU and micro-container based systems.

We are looking for one Post-doc with experience on machine learning and, possibly, performance modelling and assessment of cloud and big data systems with a background on performance benchmarking.

A second Post-doc position is available in the area of Software Defined Networks. We are looking for Post-doc with experience on research and experimental testbeds of SDN architectures, controllers, and traffic engineering applications.

The successful candidates are expected to have a PhD degree in a relevant field and a good publication record. Experience in collaborative research projects and in supervising masters and undergraduate students will constitute a preferential element.

Expertise in one of the following fields will be highly regarded: cloud computing, performance evaluation, machine learning, software defined networking, traffic engineering.

The working language will be English, knowledge of Italian is not required.

The position will be fixed-term for one year, renewable for an additional period of another year. The starting date is negotiable but should be around December 1st 2017.

Inquiries and expressions of interest, including a curriculum vitae, a list of publications (with a shortlist of the three most important papers), and an outline of prospective research (no more than 2 pages) should be sent by e-mail to Prof. Danilo Ardagna (danilo.ardagna@polimi.it) and Prof. Antonio Capone (antonio.capone@polimi.it).
Deadline for submissions: October 30 2017 (submissions received after that date are welcome and will be considered as long as the positions will be still available).