

PhD In Information Technology

Research Area n. 1 - Computer Science and Engineering

Research Field: “Design, implementation, and verification of context-aware Complex Event Processing techniques for travel assistants”

Scholarships and Financial support	
Monthly net income of PhD scholarship (max 36 months)	€. 1.200 (In case of a change of the welfare rates during the three-year period, the amount could be slightly modified)
Number of scholarships	1
Beginning of PhD	1/5/2017
Deadline for application	13/03/2017
Context of the research activity	
Motivations and objectives of the research in this field	This research is part of the IT2RAIL (INFORMATION TECHNOLOGIES FOR SHIFT2RAIL) research project funded by the EU under the H2020 programme. The goal of the project consists in developing an interoperable infrastructure and services to support travellers across nations and means of transport. In particular, the goal of this research is the development of mechanisms for detecting relevant events along user routes starting from (possibly standardized) data that is made available from third parties.
Methods and techniques that will be developed and used to carry out the research	The mechanisms to be developed shall be based on the T-Rex Complex Event Processing engine (https://github.com/deib-polimi/TRex), and will exploit semantic web technologies to make data from different parties interoperable.
Educational objectives	From an educational point of view, the research activity aims at teaching students methods and technologies for developing complex, scalable distributed systems, with particular focus on the domain of intelligent transportation systems and travel assistants.

Job opportunities	This research opens the doors to a career in the engineering of complex, distributed software systems, in particular those that have to manage a large amount of semantic events and data efficiently, to serve a large user base.
Composition of the research group	Number of Full Professors: 3 Number of Associate Professors: 1 Number of Assistant Professors: 2 Number of Post-Docs: 2
Names of the research directors	Matteo Rossi, Gianpaolo Cugola
E-mail address, phone number and web-page	matteo.rossi@polimi.it 02 2399 3561 http://home.deib.polimi.it/rossi/ gianpaolo.cugola@polimi.it 02 2399 3493 http://home.deib.polimi.it/cugola/
List of Universities, Companies, Agencies and/or National or International Institutions that are cooperating in the research	1. Ferrovie dello Stato 2. Oltis Group 2. Leonardo (Finmeccanica) 3. CEFRIEL 5. HaCon
Additional support	
<u>Educational activities</u> (purchase of study books and material, funding for participation to courses, summer schools, workshops and conferences): financial aid per PhD student per year	2nd year: 1.370 euro per student 3rd year: 1.370 euro per student
<u>Teaching assistantship</u> : availability of funding in recognition of support to teaching activities by the PhD student	There are various forms of financial aid for activities of support to the teaching practice. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.
<u>Computer availability</u> :	1 st year: <i>individual use</i> 2 nd year: <i>individual use</i> 3 rd year: <i>individual use</i>
<u>Desk availability</u> :	1 st year: <i>individual use</i> 2 nd year: <i>individual use</i> 3 rd year: <i>individual use</i>