



Sapienza PhD in ICT

Doctoral program in Information and Communications Technologies at Sapienza Università di Roma, Rome, Italy

First Year Doctoral Program Form

LAST NAME	Antonello
NAME	Rosato
CURRICULUM	Information and Communication Engineering
DOCTORAL CYCLE	XXXI

The Doctoral Program Form contains, year by year, the description of the PhD program of each Doctoral student. This form must be submitted to the PhD coordinator with roughly the following timing:

- by the end of February of the first year for first year students
- before the admission to the second year by perspective second year students
- before the admission to the third year by perspective third year students

The Doctoral Program Proposal is approved by the PhD board shortly after submission. The Doctoral Program requirements place formalized emphasis on methodology and mastery of fundamental and applied engineering systems concepts. A Doctoral Program Proposal should be constructed in agreement with the Faculty mentor, that is the supervisor or tutor, by complying to the requirements, described in the Tables below.

ADVANCED COURSES: 12 CREDIT FORMATION UNITS (CFU)¹

Only courses/schools providing a final verification test with pass/fail outcome certified by instructor can be included here.

Title	Type	Duration / period	CFU ²	Motivation for selection
Pattern recognition) (A. Rizzi)	Master Degree course	48 teaching hours (February-May)	6	This course provides good background knowledge for Pattern Recognition and Computational Intelligence. Both of these topics are the focus of my research project.
Distributed optimization over complex networks (S. Barbarossa)	Master Degree course	48 teaching hours (February-May)	6	This course could help me broaden my knowledge regarding complex distributed networks of agents, which is an important framework for my work.
Total CFU			12	

SEMINARS AND LABORATORY ACTIVITIES: 6 CFU³

Activity	Type	Duration / period	CFU ⁴	Motivation for selection
La scrittura tecnico-scientifica (technical and scientific writing)	Seminar	24 hours (February 2016)	4	The seminar is focused on the main issues of scientific writing and it provides a good background for producing clear and solid technical documents.
Other seminars delivered by the DIET	Seminar	March-May 2016	3	The seminars are usually a very effective way to deepen the knowledge on a specific topic. I will choose the ones delivered in the second semester of this year and first semester of the next year.
Total CFU			7	

¹ Please insert lines as required/appropriate, and for each line complete each column of the Table.

² Indicate here the CFUs that can be accounted for as a result of the successful completion of the activity; for Master Degree courses, assume 1 CFU = 8 teaching hours + 12 homework/study hours, for a total of 20 hours. This rule can be slightly adjusted for other types of courses/activities (e.g., PhD courses may require slightly less hours per CFU)

³ Please insert lines as required/appropriate, and for each line complete each column of the Table.

⁴ Indicate here the CFUs that can be accounted for as a result of the successful completion of the activity; as a rule of thumb, assume 1 CFU = 20 working hours.

ADDITIONAL INDEPENDENT FORMATION AND RESEARCH ACTIVITIES: 6 CFU⁵


Indicate activities that extend and complement the mandatory activities listed above

Activity	Type	Duration / period	CFU ⁶	Motivation for selection
Conducting seminar on mobile application in the Pervasive Systems course (M. Panella)	Seminar	3 months	1	Improving dissemination and teaching abilities, focusing on previously produced and studied material.
Support students in homework and thesis work)	Tutorial	8 months	2	Improving dissemination and collaboration abilities
Supporting exercises and other activities during exams in the Electrotechnics course (M. Panella)	Tutorial	3 months	1	Improving teaching capability
Supporting activities of the Computational intelligence and pervasive system laboratory	Laboratory	8 months	2	Improving dissemination and collaboration abilities
Total CFU			6	

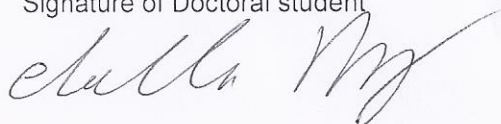
RESEARCH ACTIVITY: 36 CFU

Research area	Machine learning (or Distributed Learning?)
Research topic	Study of Distributed Learning algorithms and Machine Learning techniques for data analysis and decision-making. The main focus is to develop a distributed system that can solve problems of pattern recognition, prediction and regression in a supervised or unsupervised learning environment. The main characteristic of my work is to be able to do so without relying on a centralized authority.
Framework of the proposed research topic	To reach the goal of advancement in this research field, the first period must be devoted to comprehensive study of the state of the art regarding supervised and unsupervised learning systems, with particular attention to distributed solutions. The idea is to be able to expand the range of problem and solve the limits of the traditional learning techniques for data clustering, regression and classification.
Research environment	Expected collaborations with other departments and laboratories of the University La Sapienza; Initial collaboration with already joined research groups in Australia and US.

FACULTY MENTOR (TUTOR OR SUPERVISOR)

Prof. Dr.	Massimo Panella
Supervisor signature for approval	

Signature of Doctoral student



Date

26/02/2016

⁵ Please insert lines as required/appropriate, and for each line complete each column of the Table.⁶ Indicate here the CFUs that can be accounted for as a result of the successful completion of the activity; as a rule of thumb, assume 1 CFU = 20 working hours.