

Master SIIC - Systèmes Informatiques Intelligents et Communicants

Intelligent and Communicating Computer Systems

Introduction

The aim of this specialized, professional master degree is to provide its students with up-to-date skills in technical areas related to the Internet, multimedia, telecommunications, data processing, and intelligent objects able to embed all these techniques (ubiquitous computing, etc.).

These new technologies generate important needs in terms of specific software and hardware. They cover many knowledge fields, both in professional usage and in the research area : intelligent data processing, real-time and embedded computing, signal processing, networks and telecommunications, image processing, human / machine interfaces, and so on. The upcoming of costless wireless communication systems will soon allow everyday objects to transparently embed computing power. Our Master clearly stresses a professional approach, with a strong partnership with ITIN on the professional training aspects. This kind of approach allows students to benefit from a technical environment and working conditions that other - classical - programs cannot provide. It also allows the students to be actually part of a professional context before the end of their studies, thanks to a half-time corporate internship.

Our master benefits from many regional, national and international collaborations, both in the industrial area and with public and private research laboratories. Its orientation towards science and technologies integrates four main components : information processing, artificial intelligence, human / machine interfaces and knowledge in business processes, to combine technological know-how with the methods and tools of project management. It allows the student to acquire a high scientific level in a wide and innovative technological field, at the intersection of computer science and information processing.

Carrier opportunities

They are mainly related to information and communication new technologies. Graduate students from SIIC are able to design and build innovative multimedia devices, to master technological transfer, to manage technological projects, and to participate in the development of local and regional economical activity through new hi-tech (data bases, information systems, software agents,

wireless communications, PDA, multi-modal interfaces, embedded systems, intelligent vehicles, DSP, etc.) company creation.

Most opportunities are proposed by big companies, especially in the telecommunications area and those involved in the design of new communicating objects or in the development of new algorithms for information processing or voice / image transportation.

Research team support

ETIS (Equipes Traitement de l'Image et du Signal, *Image and Signal Processing Lab*, UMR CNRS 8051/UCP/ENSEA, www-etis.ensea.fr).

Partnership with ITIN (Engineering school in computer science, computer networks and telecommunications).

Keywords : intelligent systems, real-time systems, software agents, embedded systems, information systems, digital communications, distributed architectures, data-mining, data warehousing, house automation.

Program

It is made of two different branches : STRC (Systèmes Temps Réel et Communicants, *Real-time and communicating systems*) and SID (Systèmes Intelligents et Distribués, *Intelligent and distributed systems*). Both programs include an important "synthesis" project (10 ECTS, more than 100h of personal involvement) for which the students are free to choose the best technical architecture, buy the needed hardware et manage their project in a professional way, helped by their project management teacher. This project must be innovative and use as many skills, methods and techniques studied during the master as possible.

Learning units are 3 to 5 ECTS each, for a volume of approximately 50h each. They are composed of 3 to 4 topics. This academic program is paired with a 6-month (half-time through the whole year) corporate internship.

STRC program

Unit	title	volume	ECTS
UEF1	Info-appliance design	50h	5
UEF3	Architectures for multimedia systems	50h	5
UEF5	Real-time and embedded intelligent systems	50h	5
UEF6	Systems and networks for digital comms	50h	5
UEF10	Project management	50h	3
UEF11	Start-up creation	50h	3
UEF12	Project	100h+	10
UEF13	Foreign language	20h	3
UEF14	Corporate internship		21
TOTAL		420	60

SID Program

Unit	title	volume	ECTS
UEF2	Info-appliance design and networks	50h	5
UEF4	Agents and intelligent systems	50h	5
UEF8	Data-mining and warehousing	50h	5
UEF9	Distributed systems and applications	50h	5
UEF10	Project management	50h	3
UEF11	Start-up creation	50h	3
UEF12	Project	100h+	10
UEF13	Foreign language	20h	3
UEF14	Corporate internship		21
TOTAL		420	60

Contacts

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