

Multimodal Daily Activity Recognition by Smart Home and Robot Sensors

IMT Atlantique



NICOLAS BAUDIN
INTERNSHIPS IN FRANCE INITIATIVE

Name of the hosting institution in France	IMT Atlantique
Name of the host laboratory / research team	Computer Science Department
Address	Département Informatique IMT Atlantique Bretagne Pays de la Loire Technopôle Brest-Iroise CS 83818 29238 Brest Cedex 3 France
Name of the supervisor	Papadakis Panagiotis , Nguyen Sao Mai
Function	Maitre de conférences (Assistant Professor)
Email	nguyensmai@gmail.com
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Internship offer

Topic of the internship (title)	Multimodal Daily Activity Recognition by Smart Home and Robot Sensors			
Proposed dates of the internship*	Start	2020-10-01	End	2021-05-31

* The supervisors have indicated the dates proposed are flexible and are able to be postponed subject to COVID-19 border closures.

Scientific and academic objectives of the internship (detailed description of the internship content, work expected from the intern and expected outcomes):

The student will learn about computer science techniques and machine learning algorithms for daily activity recognition from various sensors ranging from wearable sensors, human pose sensors, 3D images, sensefloor, presence detector ... from smart home devices and assistive robot sensors. The student will propose a visualisation interface for our multimodal data, collect data within our [living lab](#), analyse the collected data and assess the performance of machine learning algorithms for activity analysis such as deep learning neural networks including convolutional neural networks and long-short term memory. The expected outcome is a visualisation interface for the multi-modal dataset and an evaluation of the performance of activity recognition on the dataset by state-of-the-art algorithms This 6 month internship is part of a research cooperation between IMT Atlantique and the Auto-Id Lab and the [WASAA Academy summer school](#) organised by IMT Atlantique for students from Australian partner universities.

Name of the Australian partner institution	University of Adelaide
Name of lab/department/team involved in the Collaboration at the Australian partner institution	Auto-Id Labs
Main contact in the Australian partner institution	Damith Ranasinghe
Function	Associate Professor, Director of the Auto-Id Lab
Email	damith.ranasinghe@adelaide.edu.au
Outside of this ongoing collaboration, will applications coming from students of other eligible Australian universities be considered by the hosting institution in France?	No

Expected profile of applicant

Level of study	Master or Bachelor honours degree
Discipline	Machine Learning, Computer Science
Required qualities, knowledge and skills	Python programming, machine learning, databases
Other specific eligibility criteria	Language : English, French or Greek