Université de Bretagne Occidentale

FACULTÉ DES SCIENCES & TECHNIQUES

MASTER INFORMATIQUE

PARCOURS SYSTÈMES INTERACTIFS, INTELLIGENTS ET AUTONOMES

Semestre 9

S9 SIIA Interactive Machine Learning

Présentation

4 crédits ECTS

Volume horaire

Cours Magistral : 24h
Travaux Pratiques : 24h

Interactive Machine Learning (IML) merges machine learning and human-computer interaction. While traditional machine learning systems process the data that have been given to them in advance, this course considers that the learning process could benefit from interactions with the environment as well as with a human, and that inputs and outputs from and for humans carry meaningful information. Indeed humans may provide input to a learning algorithm, including inputs in the form of labels, demonstrations, advice, rewards or rankings. The interaction is all the more useful as the human can guide along the learning process while adapting his guidance to the outputs of the algorithm. This interaction can be in the form of feedforward or feedback information. The timing of these interactions can be preset, left to the teacher's initiative or even to the learner's initiative. In the latter case, the algorithm called "active learner" can decide when, about what, how and with whom to interact to optimise its learning process. Thus a bidirectional dialogue can emerge. Application will focus on interactive robot programming covering topics including sensing in real-world environments, mapping, navigation, localization, kinematics and vision. Students will program virtual and physical robots interacting with the world using modern Robot Operating

Descriptif

Presentation of

- Interactive Machine learning
- Interactive Robotic
- Interactive Machine Learning for Robotic

Modalités de contrôle des connaissances

Session 1 ou session unique - Contrôle de connaissances

Nature de l'enseignement	Modalité	Nature	Durée (min.)	Coefficient	Remarques
	CC	Travaux Pratiques		100%	

Session 2 : Contrôle de connaissances

Nature de l'enseignement	Modalité	Nature	Durée (min.)	Coefficient	Remarques
	CT	Ecrit et/ou Oral		100%	

Langue d'enseignement

Anglais