

UE Multi-agent systems



Niveau d'étude
Bac +5



ECTS
3 crédits



Crédits ECTS
Echange
3.0



Composante
UFR
Informatique,
mathématiques
et
mathématiques
appliquées
(IM2AG)



Période de
l'année
Automne (sept.
à dec./janv.)

Diplômes intégrant cet élément

- Master Informatique

- › **Langue(s) d'enseignement:** Anglais
- › **Méthodes d'enseignement:** En présence
- › **Forme d'enseignement :** Cours magistral
- › **Ouvert aux étudiants en échange:** Oui
- › **Crédits ECTS Echange:** 3.0
- › **Code d'export Apogée:** GBX9MO27

Présentation

Description

This course introduces the field of MAS, various theoretical aspects (agent architectures, reasoning, interactions, game theory, social choice, etc), as well as practical applications from recent research. The focus is mostly on agent-based social simulation, and how to integrate psychological aspects in agents (so-called "human factors": emotions, biases...) to make them more human-like and realistic. Applications discussed include epidemics modelling, computational economy, crisis management, urban planning, serious games, etc. The practical part of the course comprises several tutorials with various agent-based modelling platforms (in particular GAMA and Netlogo), scientific papers discussions, and analysis and/or extension of existing models.

Objectifs

Multi-agent systems (MAS) is a very active field of AI research, with multiple industrial and societal applications. The 2 main fields of application concern Distributed Problem Solving (DPS) and Agent-Based Modelling and Simulation (ABMS). The goal of this course is to understand the concepts of agents, multi-agent systems, models and simulations, and to learn how to design such models.

Heures d'enseignement

CM	CM	18h
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Pré-requis recommandés

Basic programming skills

Période : Semestre 9

Infos pratiques

Contacts

Responsable d'UE

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Lieu(x) ville

➤ Grenoble

Campus

➤ Grenoble - Domaine universitaire