IOT and AI for Healthcare

Credits: **3 ECTS**
Semester: **1**
Coordinators : **Sébastien Chanoine**
e-mail : schanoine@chu-grenoble.fr

Content of the Course Unit

This teaching unit aims to introduce students to Internet Of things (IoT) in the field of healthcare, and make them aware of the opportunities and issues related to data generated by these IoT.

Detailed program

- IoT for healthcare: definition and overview
- Artificial intelligence to exploit data generated by IoT for healthcare
- Concerns related to data generated by IoT for healthcare
- Regulation of the use of health data for research
- Research on the development of new IoT: overview and perspectives
- Tutorial: presentation of IoT currently marketed

Competencies acquired for MIAI Label

Competencies	Novice	Intermediate	Advanced
1 - Select and use the right tools for structuring, exploring, researching, storing, and using data		x	
1.1 - By collecting and consolidating, explaining the data for decision-making assistance (business intelligence)		x	
1.2 - Knowing the sources and the data acquisition to train a model		x	
1.3 - By assessing the ethical and regulatory impacts linked to the data and their use		x	
2 - Know and apply learning and symbolic AI technologies		x	
2.1 - Knowing the main models and tools (their context and application conditions, their inputs and outputs)		x	
2.2 - By modeling a customer or application problem and identifying the use of AI to solve it	x		
3 - Identify, explore and model AI technologies on real applications			x
3.1 - By having the ability to interact with specialists in the field to identify the problem and specify the needs		x	
3.2 - By understanding the AI architecture dedicated to an application and by making it evolve so that it matches business or customer needs: data (collection, storage, management); learning; decision making; analysis and model relevance.		x	
3.3 - By knowing and mastering the management of an AI project in a company	x		
3.4 - Using AI to transform the company and its management	x		

Organisation

Hours of courses, on-line Exercises, project, other activities….
Remember: the program is 100% online and in english
- Hours of courses: 15h (tutorials: 3h)
- Project: 12h

Rules of validation
Continuous evaluation (%), Final exam (%), online activities (%),….

Continuous evaluation (40%): presentation of an IoT (video)

Final exam (60%): MCQ online