MUFRAMEX
3rd THEMATIC SCHOOL

ARTIFICIAL INTELLIGENCE FOR HEALTH

FROM DECEMBER 4th TO DECEMBER 7th, IN TOULOUSE

MUFRAMEX · MAISON UNIVERSITAIRE FRANCO-MEXICAINE · EDUCACIÓN · MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR ET DE LA RECHERCHE · EDUCACIÓN SECRETARÍA DE EDUCACIÓN PÚBLICA · MINISTÈRE DE L'EUROPE ET DES AFFAIRES ÉTRANGÈRES · SRE SECRETARÍA DE RELACIONES EXTERIORES · Université de Toulouse · ANITI ARTIFICIAL & NATURAL INTELLIGENCE TOULOUSE INSTITUTE · IRIT · UNIVERSIDAD DE GUADALAJARA · CIMAT

PRESENTATION

Artificial Intelligence is now a key element in the development of medical techniques. Its use in both detection and therapy involves a wide range of techniques, from logical description to deep learning.

Following on from the themes of the connected city and generative models, this third themed bi-national school will focus on AI applied to the healthcare sector. Taking place from 4 to 7 December 2023 in Toulouse, and built around a series of courses and conferences, it will offer multi-disciplinary Franco-Mexican teams the chance to challenge each other during a hackathon using real data sets.

Speakers will include French and Mexican professors accustomed to working at the interface between medicine and IT, as well as speakers from the medical world.

Built around a series of courses and conferences, it will offer teams from France and Mexico the chance to challenge each other in a hackathon using real data sets. Lecturers will include French and Mexican professors used to working at the interface between medicine and IT, as well as speakers from the medical world.

The school is open to all undergraduate, bachelor of science, master's and doctoral students in the field of artificial intelligence, who are studying at a higher education establishment in France or Mexico.

	MONDAY 4th DECEMBER	TUESDAY 5th DECEMBER	WEDNESDAY 6th DECEMBER	THURSDAY 7th DECEMBER
9h00		**Lecture 2** Representing and estimating uncertainties with deep learning Jean-Bernard Hayet	ANITI: Institute presentation	
9h30	Welcoming words		Research presentations	Industry 4.0 Datacenter Visit
10h00				
10h30	*Coffee break*	*Coffee break*	*Coffee break*	
11h00	**Lecture 1** Introduction to Machine Learning Sylvain Cussat-Blanc	**Lecture 3** Interpretable Machine Learning Models Dennis Wilson	**Lecture 5** Pattern mining Anne Laurent	
11h30				
12h00				
12h30				
13h00	Lunch	Lunch	Lunch	Lunch
13h30	**Challenge presentation**	**Conference 2** From computational protein design to virus evolution forecasts David Simoncini	Poster presentation	Hackaton results
14h00				
14h30			**Lecture 4** Ontologies in health Fleur Mougins	
15h00	*Coffee break*	*Coffee break*		
15h30	**Conference 1** AI and Health, a true story ? Jean-Marc Alliot	**Conference 3** Ethics and AI : national and European approaches Sylvain Chatry	*Coffee break*	
16h00			**Lecture 4** Ontologies in health Nathalie Hernandez	
16h30				
17h00				
17h30	**Team work**	**Conference 4** Accountability: the ethics, legislation, gender and human rights nexus Wanda Muñoz	**Team work**	
18h00				
18h30				
19h00				
19h30		**Dinner time**		
20h00				
20h30				
21h00				

LECTURES

LECTURE 1: INTRODUCTION TO MACHINE LEARNING

Lecturer: Sylvain Cussat-Blanc, Institut de Recherche en Informatique de Toulouse (IRIT), Université de Toulouse

📅 Schedule: December 4th, 3:30 PM - 5:00 PM

📍 INSPÉ Toulouse Occitanie-Pyrénées - Site de Saint-Agne • Salle 5 • 56 Av. de l'U.R.S.S., 31400 Toulouse

LECTURE 2: REPRESENTING AND ESTIMATING UNCERTAINTIES WITH DEEP LEARNING

Lecturer: Jean-Bernard Hayet, CIMAT Guanajuato

📅 Schedule: December 4th, 3:30 PM - 5:00 PM

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LECTURE 3: INTERPRETABLE MACHINE LEARNING MODELS

Lecturer: Dennis Wilson, Institut Supérieur de l'Aéronautique et de l'Espace (ISAE-SUPAERO)

📅 Schedule: December 5th, 11:30 AM - 12:30 PM

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LECTURES

LECTURE 4: ONTOLOGIES IN HEALTH

Lecturer: Nathalie Hernandez, Institut de Recherche en Informatique de Toulouse (IRIT), Université de Toulouse

📅 Schedule: December 6th, 4:30 PM - 6:00 PM

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LECTURE 4: ONTOLOGIES IN HEALTH

Lecturer: Fleur Mougins, Université de Bordeaux

📅 Schedule: December 6th, 2:30 PM - 4:00 PM

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LECTURE 5: PATTERN MINING

Lecturer: Anne Laurent, Université de Montpellier

📅 Schedule: December 6th, 11:00 AM - 12:30 PM

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CONFERENCES

CONFERENCE 1: AI AND HEALTH, A TRUE STORY ?

Speaker: Jean-Marc Alliot, Centre Hospitalier Universitaire (CHU) de Toulouse

📅 Schedule: December 4th, 3:30 PM - 5:00 PM

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CONFERENCE 2: FROM COMPUTATIONAL PROTEIN DESIGN TO VIRUS EVOLUTION FORECASTS

Speaker: David Simoncini, Institut de Recherche en Informatique de Toulouse (IRIT), Université de Toulouse

📅 Schedule: December 5th, 2:00 PM - 3:00 PM

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CONFERENCE 3: ETHICS AND AI : NATIONAL AND EUROPEAN APPROACHES

Speaker: Sylvain Chatry, Université de Perpignan Via Domitia

📅 Schedule: December 5th, 3:30 PM - 5:00 PM

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CONFERENCE 4: ACCOUNTABILITY: THE ETHICS, LEGISLATION, GENDER AND HUMAN RIGHTS NEXUS

Speaker: Wanda Muñoz

📅 Schedule: December 5th, 5:00 PM - 7:30 PM

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