

Welcome IML

Cédric Buche

ENIB

26 août 2019

- 1 Topics & Challenges
- 2 Location
- 3 Teachers
- 4 Exams
- 5 Calendar
- 6 Human Computer Interaction (HCI)
- 7 Interactive Machine Learning (IML)

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Topics & Challenges

▷ Machine Learning



▷ Applications

- ◇ Voice recognition
- ◇ Spam detection
- ◇ Stock market
- ◇ Play chess
- ◇ Self driving cars

Topics & Challenges

▷ Machine learning

- ◇ Useful
- ◇ Looks pretty complicated
- ◇ IML : pretty easy + a lot of fun

▷ Interaction



Location



- ▷ Cédric Buche, Professor ENIB
- ▷ Mai Nguyen, Associate Professor, IMT
- ▷ Pierre De Loor, Professor, ENIB



2019-08-26

Location



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2019-08-26

- ▷ Cédric Buche, Professor ENIB
- ▷ Mai Nguyen, Associate Professor, IMT
- ▷ Pierre De Loor, Professor, ENIB



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▷ Ongoing assessment



- ▷ Calendar : <http://sia.univ-brest.fr/w/index.php/EDT>
- ▷ Documents : <http://sia.univ-brest.fr/w/index.php/IML>
- ▷ Contact : buche@enib.fr



Outlines

- ▷ Introduction : linear/polynomial regression, naive bayes, decision tree, logistic regression, neural network, SVM, HCI
- ▷ Framework / Data : data preparation, frameworks, hyper-parameters, data reduction
- ▷ Detection - Prediction - Tests : clustering, classification, feature extraction, K-Fold cross validation, confusion matrix, accuracy, precision, recall, F1 Score, overfitting/underfitting
- ▷ AI Example : classification of galaxies
- ▷ Navigation : Mesh, Graph, videos games, GNG, SGNG
- ▷ Enactive artificial intelligence / Developmental approaches
- ▷ Interaction
- ▷ Learning by demonstration, imitation/interactive learning
- ▷ Deep Learning

IML

Date	Topic	Type	Room	Teacher	Topics
1-06	Introduction - Basic algorithms	Lecture		C. BUCHE	linear regression, polynomial regression, naive bayes, decision tree, logistic regression, neural network, SVM, HCI, ML
3-06	Data	Lecture		C. BUCHE	data preparation, frameworks, hyper-parameters, data reduction
5-07	Feature extraction - Tests	Lecture		C. BUCHE	feature extraction, K-Fold cross validation, confusion matrix, accuracy, precision, recall, F1 Score, overfitting/underfitting
7-07	AI Examples	LAB		C. BUCHE	classification of galaxies
9-08	AI Examples	LAB		C. BUCHE	classification of galaxies
11-08	Navigation	Lecture		C. BUCHE	Mesh, Graph, video games, GNG, SGNG
13-08	Enactive artificial intelligence / Developmental approaches	Lecture		M. NGUYEN	
15-08	Interaction	Lecture		M. NGUYEN	
17-08	Learning by demonstration, imitation learning, interactive learning	Lecture		M. NGUYEN	
19-08	Deep Learning	Lecture		P. DE LOOR	
21-08	Deep Learning	LAB		P. DE LOOR	
23-08	Deep Learning	LAB		P. DE LOOR	

Outlines

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Calendar



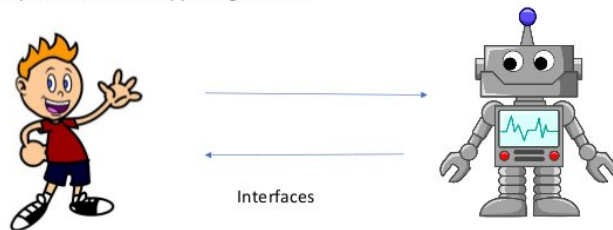
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HCI

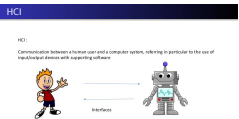
HCI :

Communication between a human user and a computer system, referring in particular to the use of input/output devices with supporting software



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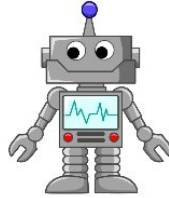
HCI



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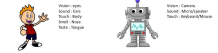


Vision : eyes
Sound : Ears
Touch : Body
Smell : Nose
Taste : Tongue



Vision : Camera
Sound : Micro/speaker
Touch : Keyboard/Mouse

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- ▷ Autonomous machine learning systems : often require intense engineering effort to be effective
- ▷ How machines can interact with people to solve problems more efficiently than autonomous systems?
 - ◇ Humans interacting with robots to teach them to perform tasks
 - ◇ Humans helping virtual agents play video games given feedback on their performance
 - ◇ ...

- ▷ Domain :
 - ◇ Machine Learning
 - ◇ Artificial intelligence
 - ◇ Human-computer interaction
 - ◇ Cognitive science
 - ◇ Robotics



Welcome

IML

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