Syllabus for **INF436 Machine Learning (Second Part)**

1) Course description
The main objective of this course is to guide students to have a solid basis on Machine Learning in Computer Science. The development of such basis is possible by designing the present course such that students will learn the theory, reason themselves on the learned topics (to deepen their knowledge), apply the theory by implementing it from scratch (programming in Python), and share the gained knowledge with their peers (to truly appropriate the knowledge). This course covers from the initial to intermediate levels of Machine Learning with applications in various domains (such as robotics, finance, biology, and more).

2) Course program
Session 2-1 (the week of February 24, 2020) (3h)
[Lecture 2-1]
1) Feedforward Neural Network

[Lab 2-1 / Homework 2-1]
1) Release Lab1/Homework 1: Feedforward Neural Network

Session 2-2 (the week of March 2, 2020) (4h30m)
[Quiz 2-1]
Topic: Lecture 2-1
Duration: 15 minutes

[Lecture 2-2]
1) Recurrent Neural Network

[Lab 2-2]
1) Release HW2: Recurrent Neural network, K-means/PCA
2) Evaluate HW1 (Feedforward Neural Network): Target subjects: some students; Duration: 45minutes

[Lecture 2-3]
1) K-Means and PCA

Session 2-3 (the week of March 17, 2020) (3h)
[Quiz 2-2]
Topic: Lecture 2-2 and Lecture 2-3
Duration: 20 minutes

[Lecture 2-4]
1) Reinforcement learning

[Lab 2-3]
1) Release HW3: Reinforcement learning

2) Evaluate HW2 (Recurrent Neural Network, K-means/PCA): Target subjects: some students; Duration: 45minutes

Session 2-4 (the week of March 23, 2020) (4h30)
[Quiz 2-3]
Topic: Lecture 2-4
Duration: 15 minutes

[Lecture 2-5]
1) Discriminative models and generative models

[Lab 2-4]
1) Release HW4: Discriminative models and generative models
2) Evaluate HW3 (Reinforcement learning): Target subjects: some students; Duration: 45minutes

[Lecture 2-6]
1) AI Past, Present and Future

3) Course evaluation (*Need to double check with the Chair of the Department*).
Continuous Evaluation: 30% (Lab: 5%, Homework: 12.5%, Quizzes: 12.5%) (Note: other 30% from the other lecturer)
Exam: 40% (MCQ (Multiple-Choice Questions) in English) (Note: Questions from both lecturers)

4) Details about homework
- Due: Look at the course program for each homework due
- Evaluation: code and explanation about the code (in group of 2 or 3 people (3 preferable)
Remark 1: Only groups of two or three people accepted (three preferable).
Remark 2: No late homework will be accepted.
Remark 3: No plagiarism. If plagiarism happens, both the lender & borrower will have a zero.
Remark 4: Code yourself from scratch. No homework is considered if you use any ML library.
Remark 5: Do thoroughly all the demanded tasks.

5) Absences
- Presence is mandatory.
- To excuse absences, official documents are required.
- Non-excused absences for Homework evaluations and quizzes will imply zero grade.