

Specialization Course

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Abstract

The following proposal describes the **Specialization Course (IE505818)** structure that would be required for the topic **Affordance Learning for Interaction Design**.

1 Course code and Name

IE505818 Specialization Course

2 Topic

Affordance Learning for Interaction Design

3 Course content

1. Affordance Theory
 - (a) Application of Affordance Theory in the field of Interaction Design
 - (b) Recent advances in Affordance Theory
2. Reinforcement Learning
 - (a) Overview of different Reinforcement Learning algorithms
 - (b) Pros and Cons of Reinforcement Learning

4 Learning outcome

1. Knowledge
 - (a) A thorough understanding of Affordance Theory in the context of Interaction Design
 - (b) A broad understanding of the different Reinforcement Learning algorithms

- (c) An overview of dimensionality reduction techniques and feature extraction using deep learning
- 2. Skill
 - (a) Ability to read and understand research papers in the field of relevant fields
 - (b) Technical skills to implement different algorithms and techniques
- 3. General Competence
 - (a) Ability to link affordance theory with learning algorithms

5 Evaluation

1. Oral Exam
2. A comprehensive report of literature review and proposed algorithmic improvements

6 References

1. The Design of Everyday Things by Donald A. Norman
2. Affordance, Conventions, and Design by Donald A. Norman
3. Rediscovering Affordance: A Reinforcement Learning Perspective by Todi et al.
4. Affordance Learning for End-to-End Visuomotor Robot Control by Levine et al.
5. Technology Affordances by William W. Gaver