UA 530 Deep Learning

Course Code:	UA 530
UTAA Credit (Theoretical-Laboratory hours/week):	3(3-0)
ECTS Credit:	6.0
Department:	Unmanned and Autonomous System Engineering
Language of Instruction:	English
Level of Study:	Graduate
Offered Semester:	Fall and Spring Semesters.

Course Objectives

To present methods which can be used to learn high level properties gathered from different kinds of data by the help of structures having deep architecture, show how these methods can be applied for various purposes such as image recognition, robot control

Course Content

Historical background and theoretical advantages of Deep Learning, basic artificial neural network architectures and learning algorithms which can be used for Deep Learning, organization of distributed models, optimization techniques for training of Deep models, convolutional networks, Feedback and recursive networks, automatic coding machines and Linear Factor models, learning through representation, Deep productive models – Boltzman machine

Course Learning Outcomes

1-Assess commonly used deep learning approaches by their functionality

2-Assess the advantages and disadvantages of deep learning approaches

3-Imagine basic deep learning methods and put them to experiments

4-Decide on the suitable deep learning architecture and algorithm for a required solution and implement it

5-Learn about methods for organization of deep models and their optimization