



South-Eastern Finland
University of Applied Sciences

ARTIFICIAL INTELLIGENCE

Extent 3 ECTS Credits

Responsible teacher Taikyeong Ted. Jeong

Course contact person Ulla Vuorinen

Seats 30

Duration 5.-16.7.2021

Application period: 1.-31.3.2021

COURSE INFORMATION

Course objectives

- Describe primary concepts related to AI
- Identify and explain relationships between AI and strongly related disciplines
- Discuss the history of AI
- Evaluate programming languages used in AI
- Solve search and planning problems with perfect information
- Formulate a real-world problem as a search problem
- Formulate a simple real-world game problem as a game tree
- Use searching to solve problems with uncertain information
- Use odds and probabilities to solve AI problems
- Solve problems using Bayes rule and Bayes naive classification

- Define machine learning
- Describe how machine learning is used to solve AI problems
- Use the nearest neighbor classifier technique to predict user behavior
- Describe characteristics of decision trees in machine learning
- Solve machine learning types of problems using linear and logistic regression
- Define neural networks
- Explain how neural networks are used to solve AI problems
- Describe how perception is used in AI problems
- Evaluate the relationship between robotics and AI
- Discuss the philosophy and the future of AI
- Discuss the philosophy and the future of AI



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Content

- Introduction to AI
- Problem Solving with AI
- Searching and Probabilistic Reasoning
- Machine Learning
- Neural Networks
- Perception
- Robotics
- Philosophy of and the future of AI

Prerequisites

None

Grading

Pass/fail or 0-5

Excellent (5)

Good (3-4)

Satisfactory (1-2)

Fail (0)

Assessment (will be confirmed by the teacher)

100% attendance is compulsory. Course grade will be derived 30% from grades on individual and team exercises, and 70% from grade on final exam. 100% attendance is required to take the final exam and to take a resit exam. A minimum score of 40% on the final exam is required to pass this course.

Grading Scale, i.e.

89 – 100% = 5 (Excellent)

77 – 88% = 4 (Very good)

65 – 76% = 3 (Good)

53 – 64% = 2 (Highly satisfactory)

40 – 52% = 1 (Satisfactory)

0 – 39% = 0 (Fail)