



## Introduction & History of Artificial Intelligence

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### Description

History of AI presented with various perspectives provides the students with main approaches and techniques developed and successfully applied from the middle of the past century to today. The spectrum of available techniques positioned in the context of complex problem solving prepares the students to apply the best suited/greener approaches.

The current and future trends in AI research presented and positioned in the context of ambitious challenges to face gives some inspiration for future research/work.

### Learning Objectives and Outcomes

- Understand the motivations for the development of AI.
- Know and understand the contribution of all AI fields to today 3<sup>rd</sup> hype.
- Learn to “think AI”.
- Learn and apply AI-based problem solving.
- Ability to match the right technique and problem to solve.

### Course Schedule and Contents

|           |  |
|-----------|--|
| Session#1 | <ul style="list-style-type: none"><li>▪ Definition and contribution of various fields to the development of AI</li><li>▪ Global perspective</li><li>▪ Early enthusiasm</li><li>▪ Foundation for today AI</li></ul> |
| Session#2 | <ul style="list-style-type: none"><li>▪ Knowledge-based AI</li><li>▪ Knowledge representation in computers</li><li>▪ Reasoning methods</li><li>▪ Knowledge level</li><li>▪ Decision support systems</li></ul>      |
| Session#3 | <ul style="list-style-type: none"><li>▪ Machine Learning</li><li>▪ Evolution of robots</li><li>▪ Constraint programming</li><li>▪ Hybrid systems</li><li>▪ Future of AI</li></ul>                                  |



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### Grading

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|--------------------------|-----|
| Ass#1 Course case study: | 30% |
| Quiz:                    | 30% |
| Ass#2 Course Project:    | 40% |

### Policies

- I expect you to turn-in your reports on time to receive proper credit/grade.
- Any work submitted must be your own.
- I expect everyone to contribute equally to group assignments
- Attendance in every class is expected and class participation and discussion is strongly encouraged.
- Late work will not be accepted unless prior arrangements have been made directly with me.
- Cases will be decided on an individual basis.

### References

- *Artificial Intelligence: Modern Approach*, Peter Norvig and Stuart J. Russell 2009, <http://aima.cs.berkeley.edu/>
- *Machine Learning*, vol 1- 4. Ryszard S. Michalski
- *Konstantin Golubev: Overview of AI Research History in URSS, chapter in Artificial Intelligence for Knowledge Management*, Eds E. Mercier-Laurent and D. Boulanger, Springer 2012
- In French © <https://www.futura-sciences.com/tech/intelligence-artificielle>
- <https://www.forbes.com/sites/gilpress/2016/12/30/a-very-short-history-of-artificial-intelligence-ai/#487e02a46fba>