

AI Coding (12+ y/o)

AI301 - Introduction to Machine Learning using Python

Introduction to machine learning course is for those who have basic knowledge of Python programming and are curious about the magic behind Artificial Intelligence (AI). It covers machine learning key concepts, design principles, and classic algorithms from the widely used traditional algorithms to the booming technology of deep learning and neural networks. The students will be guided to solve real-world problems with what they learn and enjoy the fun of building AI projects from scratch.

Purpose:

- Inspire and cultivate the students' interests in machine learning and AI.
- Give a systematic introduction to machine learning concepts, algorithms, applications, and design principles.
- Provide hands-on experience in building AI projects from scratch.
- Lay the foundation for the future learning of advanced machine learning courses and cutting-edge AI technologies.

Highlights:

- Systematically designed and covers from the very basic concepts to the cutting-edge technologies.
- Based on the principle of “learning by doing”, enables the students to solve real-world problems and crack the competitions.
- Designed for youth with vivid teaching, free from dull theory and full of fun.

Contents

- Topic 1: Introduction to machine learning basics [1]
- Topic 2: Decision Trees [4]
 - Project: Who wants to buy a Switch?
- Topic 3: K-Nearest Neighbors (KNN) [4]
 - Project: Movie recommendation
- Topic 4: Linear Regression [4]
 - Project: House price prediction

- Topic 5: Image Processing and Computer Vision [4]
 - Project: Filter design
- Topic 6: Deep Learning and Neural Networks [4]
 - Project: Sentiment analysis
- Topic 7: Image Classification and Face Recognition [6]
 - Project: Emotion classification
- Topic 8: A Tour of Modern Machine Learning Technologies [1]
 - GAN, reinforcement learning, ...

Skills to develop

- Understanding of machine learning and artificial intelligence

Syllabus: <https://school.thinkland.ai/syllabus/>

Curriculum: <https://school.thinkland.ai/curriculum>

Teachers: <https://school.thinkland.ai/teacher>

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