Artificial Intelligence: Principle and Practice

Free 8-day workshop bringing you to the cutting-edge artificial intelligence theory and technique!

Mon/Wed and Tue/Thur sessions held online.
Lecture (12:30 - 1:00pm): interactive undergraduate-style lecture
Lab (1:10 - 1:50pm): hands-on engineering experience
Deep Dive (2:00 - 3:20pm on Mon/Wed only): graduate-style paper and peer-focused discussion

Day 1: **Oct. 4 / Oct. 5, 2021**

Syllabus

We will study:

- 'Classical' AI
- Symbolic techniques
- Machine learning
- Neural networks and deep learning
- Computer vision
- Sequence modeling
- Natural language processing
- Reinforcement learning (including multi-agent RL)
- Human-level artificial intelligence
- AI safety and ethics

We will use:

- Python

- NumPy, Pandas, Matplotlib
- TensorFlow, Keras, Huggingface
- OpenAI Gym, PettingZoo, ThreeDWorld
- tensorboard, wandb
- docker, Google Cloud Platform

Students should already be able to:

- calculate the derivative of a polynomial
- apply basic probability & statistics to toy problems
- write simple Python programs

Course expectations:

❌ no homework
❌ no tests
❌ no costs (this course is free)
⚠️ **This course is not accredited by UTA**
☑️ individualized activities
☑️ machine learning
☑️ (most importantly) human learning

If your neurons have accumulated sufficient presynaptic evidence and your reward estimator feels like it's ready to explode, please join this exciting workshop!

Project page: https://jacobfv.github.io/Artificial-Intelligence-Principle-and-Practice/

ps: (Much of this document was drafted using artificial intelligence.)