# Artificial Intelligence: Principle and Practice

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

This completely free workshop is intended to give undergraduate and graduate students from all science and engineering majors a fast introduction to modern artificial intelligence theory and technique with special emphasis on machine learning.

It will be held in 80-minute online sessions twice a week over 8 days of October. To accomodate varied schedules, live sessions will be repeated on:

- Mondays and Wednesdays (12:30 - 1:50pm)
- Tuesdays and Thursdays (12:30 - 1:50pm)
- Saturdays (2:00 - 3:20pm and 3:30 - 4:50pm)

and later posted on YouTube. All times listed in Central time (UTC−05:00). First session: **Sat. Oct. 2 / Mon. Oct. 4 / Tue. Oct. 5 2021**

Website: https://tinyurl.com/ai-principle-and-practice

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We will study:

- 'Classical' AI shortcomings and modern symbolic progressing techniques
- Machine learning fundamentals, neural networks, and deep learning
- Computer vision, generative modeling, sequence modeling, natural language processing, deep graph processing
- Reinforcement learning, multi-agent RL, self-supervised learning, transfer learning, and domain generalization
- MLops, AI safety, and ethics

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We will use:

- Python
- `NumPy`, `Pandas`, `Matplotlib`
- `TensorFlow`, `Keras`, `transformers`
- OpenAI `gym`, `PettingZoo`, `ThreeDWorld`
- `tensorboard`, `wandb`, docker, and the Google Cloud Platform

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Before signing up, you should already be able to calculate basic derivatives, apply probability & statistics to toy problems, and write simple Python programs.

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

ps: (Much of this document was drafted by a language generation model.)