

# Artificial Intelligence: Principle and Practice

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

Mon/Wed and Tue/Thur sessions held at TDB.

**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](#)

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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
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We will use:

- Python
- NumPy, Pandas, Matplotlib

- TensorFlow, Keras, Huggingface
  - OpenAI Gym, PettingZoo, ThreeDWorld
  - tensorboard, wandb
  - docker, Google Cloud Platform
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Students should already be able to:

- calculate the derivative of a polynomial
  - apply basic probability & statistics to toy problems
  - write simple Python programs
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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
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If your neurons have accumulated sufficient presynaptic evidence and your reward estimator feels like it's ready to explode, please [join me](#) on this exciting journey!

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