Artificial Intelligence in Action

Schedule and Syllabus

This Artificial Intelligence in Action course provides training in the skills required for a career in AI. You will master TensorFlow, Machine Learning and other AI concepts, plus the programming languages needed to design intelligent agents, deep learning algorithms, and advanced artificial neural networks that use predictive analytics to solve real-time decision making problems.

Sections will be held on Saturdays 2:30pm to 3:30pm in Creekside Auditorium, 10200 Crow Canyon Rd, Castro Valley, CA 94552. For more information and course registration, please go to https://www.amrita-hall.org/ai/

Event Type	Date	Description	Course Materials
Lecture 1	Saturday February 9	**Course Introduction** AI on the Edge AI in Cloud Examples of real-world applications Neural Nets	[slides]
Lecture 2	Saturday February 16	**Types of Machine Learning** Supervised, Unsupervised, and Semi-Supervised Learning Reinforcement and Transfer Learning Tree Search SGD	[slides] [python notes] [types of learning]
Lecture 3	Saturday March 2	**Deep Neural Networks (DNNs)** Backpropagation fundamentals Training and Inference Designing a DNN	[slides] [backprop notes] [neural networks]
Lection 4	Saturday March 9	**TensorFlow / Python**	[notebook]

Guest Lecture			[slides] [notebook]
Lecture 5	Saturday March 16	**Convolutional Neural Networks (ConvNet or CNN)** Foundations of ConvNets Learning visual features Training a Deep Convolutional Neural Network "DeepFakes": Machine Generation	[slides] [ConvNet notes] [notebook]
Lecture 6	Saturday March 23	**Recurrent Neural Networks (RNN)** Natural Language modeling Sequence-to-Sequence models Long Short-Term Memory (LSTM) models	[slides] [RNN notes]
Lecture 7	Saturday March 30	**Building on Deep Neural Networks** Prevent models from overfitting with dropout Vanishing Gradients Tuning Hyperparameters	[slides] [notebook]
Guest Lecture			[slides] [notebook]
Lecture 8: Project	Saturday April 6	**How to build your own real-world AI application** Human-Centered AI	[review notes] [notebook]
Poster Session		Amrita Hall (https://goo.gl/maps/BnLAmfLKHws)	