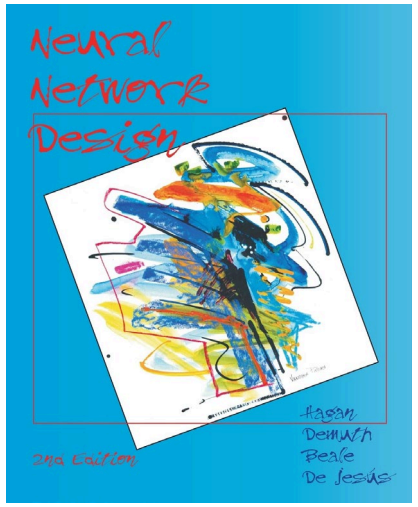
2-COURSE SEQUENCE

EEL-5813 [FALL SEMESTER]

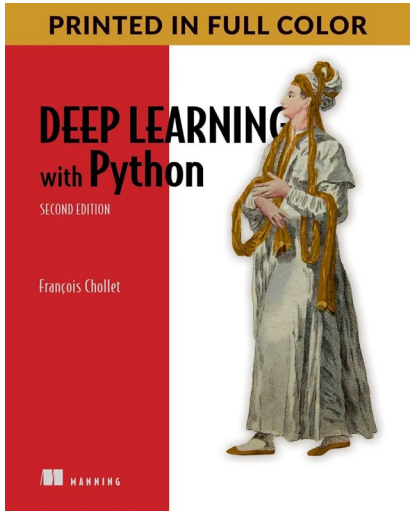
Neural Networks - Algorithms and Applications



- Objective: WHY? HOW? Neural Networks work
- (Mathematical Foundations)
- SMALL NETWORKS (~ 100 trainable parameters)
- EACH NETWORK PARAMETER can be tracked numerically
- You will program the NNs “from scratch” (No toolboxes, no “frameworks”)
- Default: Matlab

EEL-6812 [SPRING SEMESTER]

Advances in Neural Networks



- Objective: “Experience” capabilities of (D)NNs. Gain some SKILL in selecting HYPER-PARAMETERS (e.g., number of layers to use, detect and “correct” overfitting, etc.
- LARGER NETWORKS (~1,000,000 parameters)
- Individual parameters will “ usually not” be tracked
- You will use DNN “frameworks”
- Default: KERAS (Tensor Flow, Python)