Universität Potsdam
Institut für Informatik
Lehrstuhl Maschinelles Lernen

Intelligent Data Analysis II

Ahmed Abdelwahab, Sara Ahmed, Gerrit Gruben, Nuno Marquez, Niels Landwehr, Tobias Scheffer

Organization

- Who does not speak German?

- You need to have passed either "Intelligent Data Analysis", "maschinelles Lernen", or "IDA in Matlab"
- Lecture and lab or tutorial, 4 SWS, 6 LP
  - Lecture: Monday, 10:15-11:45, 03.06.H01.
  - Python lab: Tuesday, 10:15-11:45, 03.04.1.03 (some weeks).
  - Tutorial: Tuesday, 10:15-11:45, 03.04.1.02 (remaining weeks).

Organization

- In tutorial weeks, homework will be posted on course web site.
  - Solve at home, present your solutions in tutorial
- In lab weeks, Python notebooks will be posted on course web site
  - Solve at home or during lab session, present solution to teaching assistant.
- 70% of homework and lab assignments are prerequisite for the exam.

Organization: Exams

- Bachelor students (e.g., Informatik/Comp Sci):
  - ◆ Combined written / oral exam. One hour to answer 3 questions in writing,
  - ◆ Then 15 minutes of oral exam.
- Master students (e.g., Comp Sci, Cog Sys)
  - ◆ Work on semester project, to be selected with teaching assistant from Kaggle web site.
  - ◆ 30 minutes presentation of the project + oral exam about the lecture.
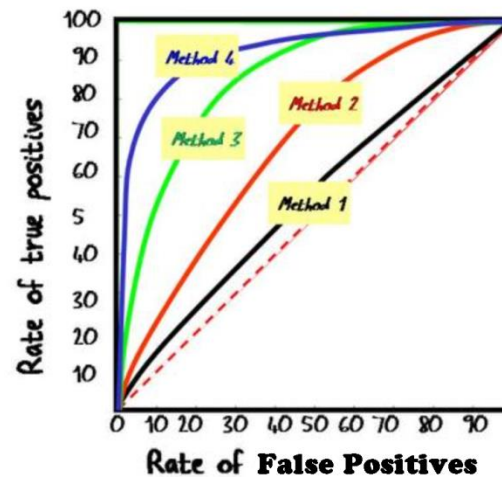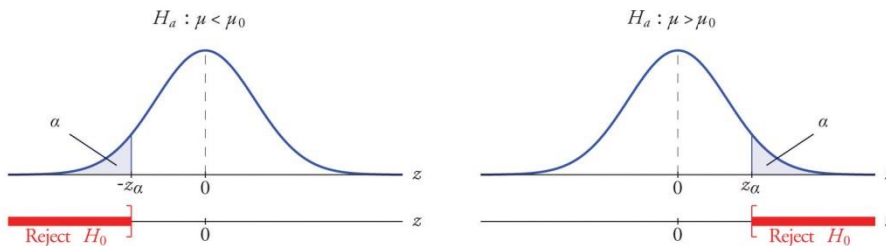
Overview: Python Introduction
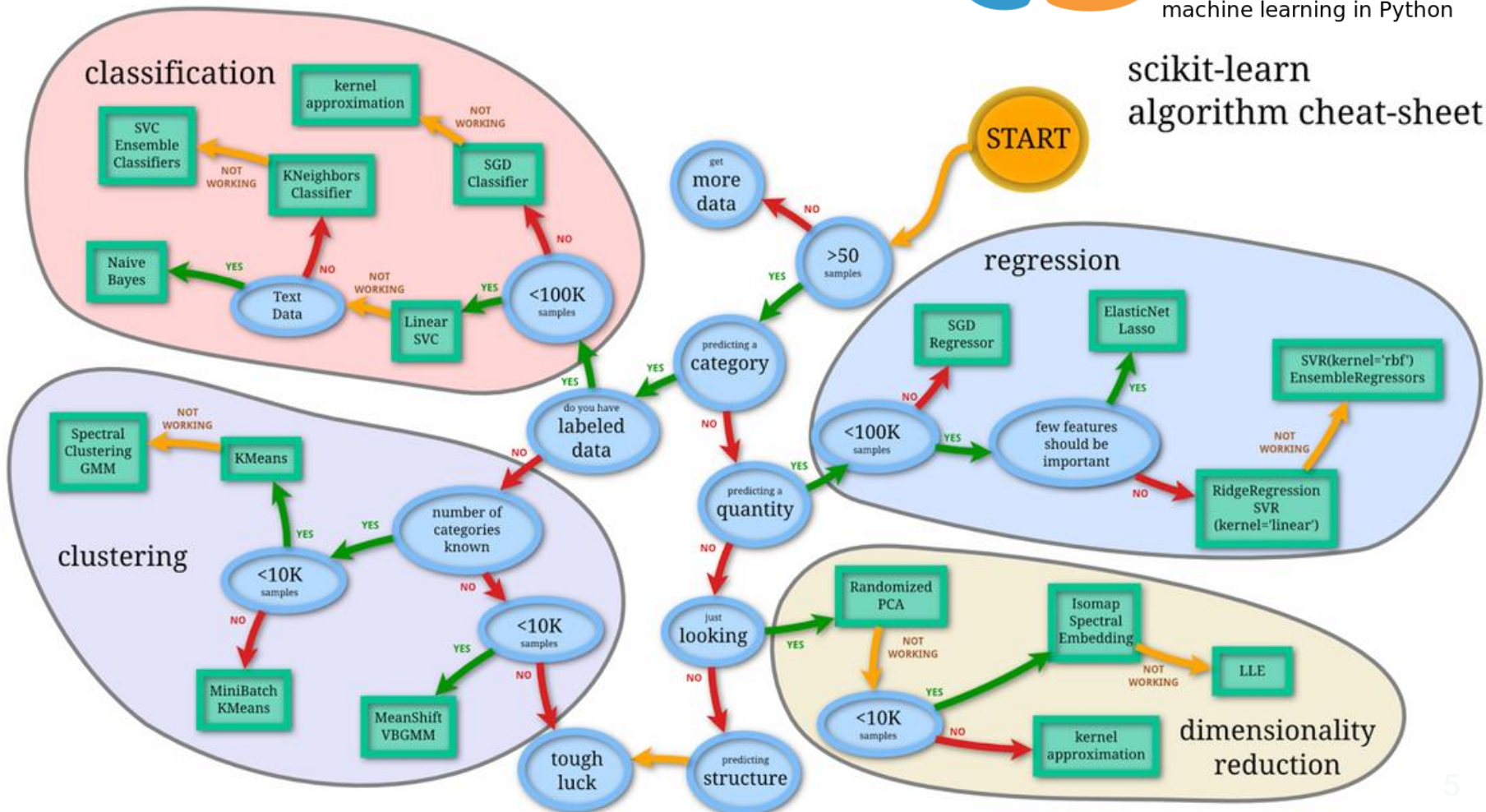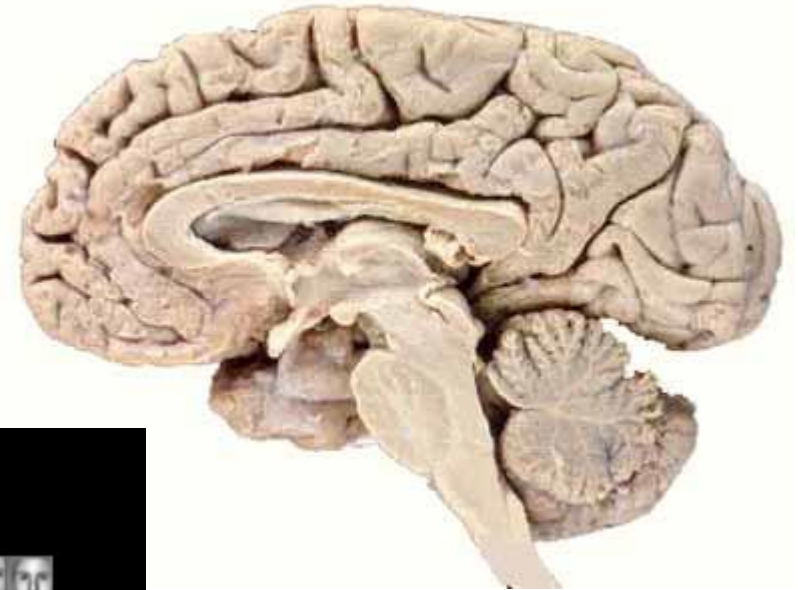
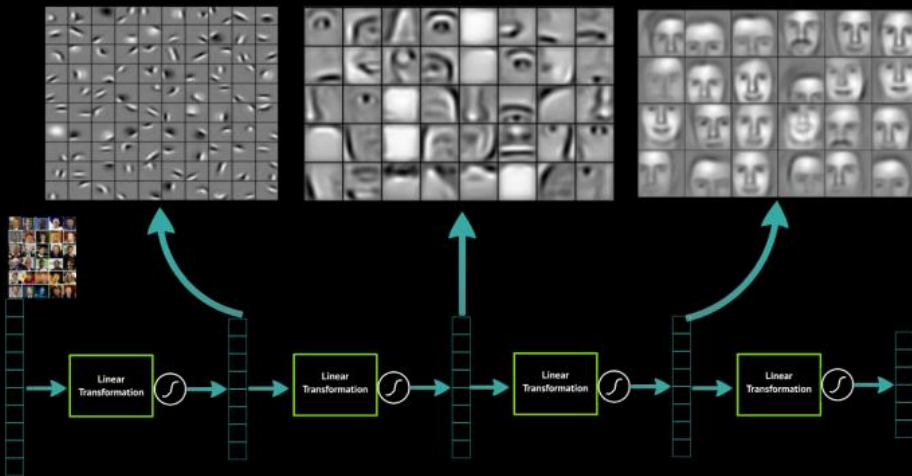# Overview: Evaluation, Model Testing

ROC CURVE EXAMPLES

The best classification has the largest area under the curve.

Too sensitive to errors in the "gold standard" classification.
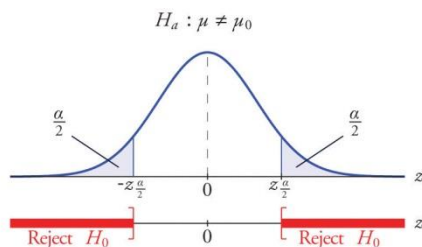
Overview: Neural Networks

Deep Learning learns layers of features

Overview: Recommendation
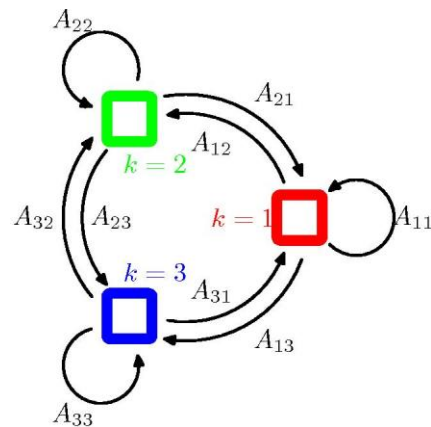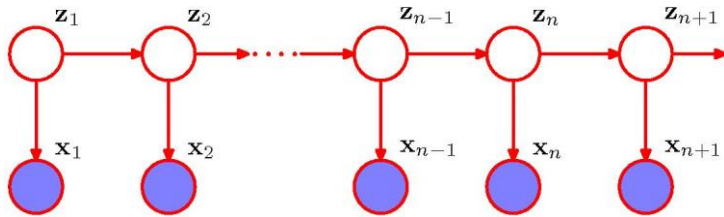
Frequently Bought Together

Price For Both: £20.07

Add both to Basket

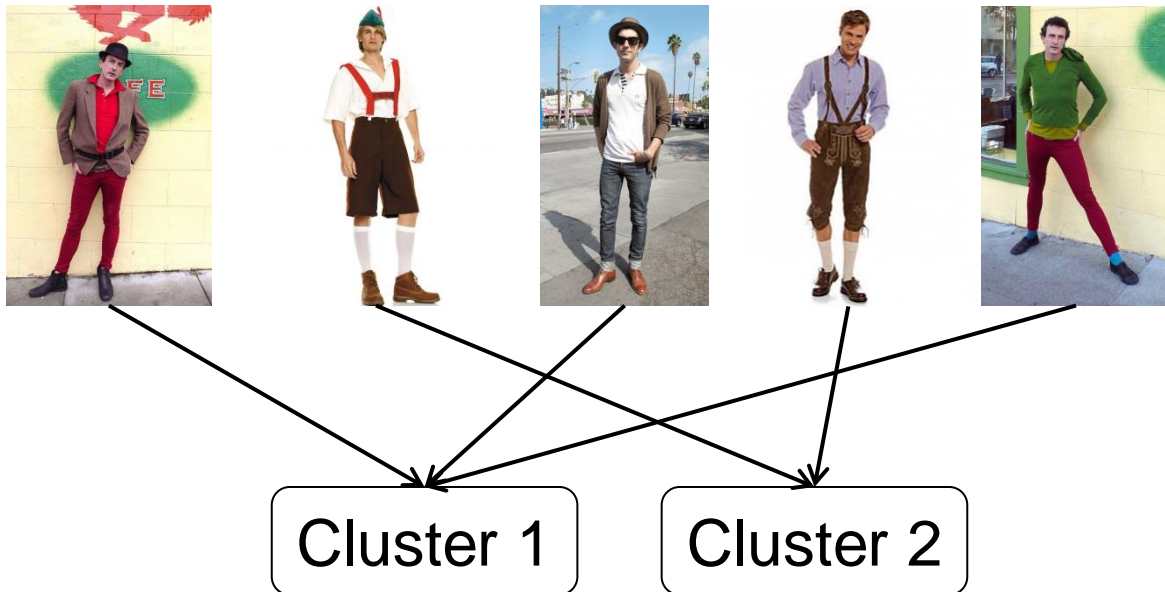These items are dispatched from and sold by different sellers. Show details

☑ **This item:** Rucanor Aluminium Baseball Bat, Silver - 60 cm Rucanor   £17.99
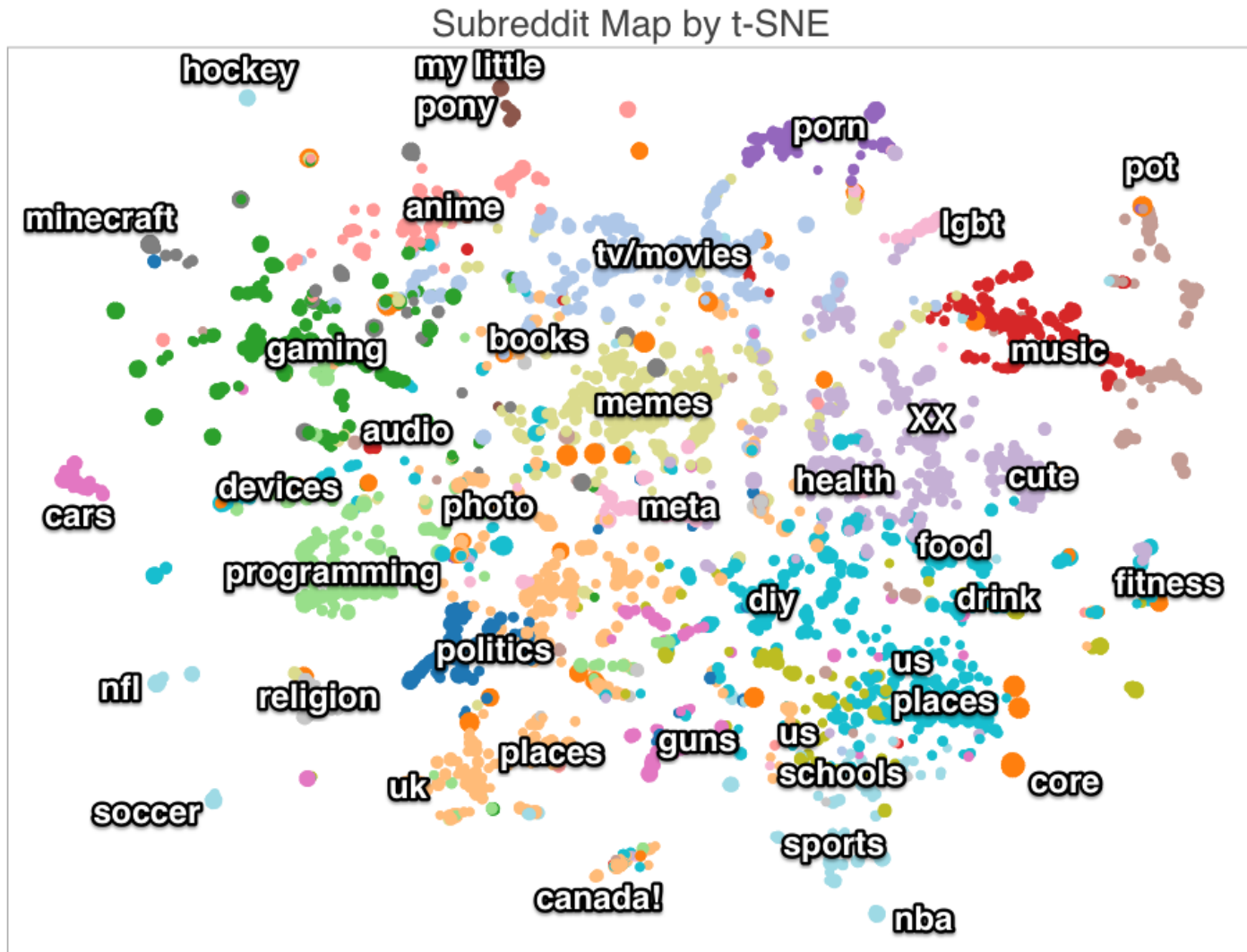☑ Balaclava 3 hole black MFH   £2.08

Overview: Structured Prediction

- Bioinformatics,
- Natural language processing,
- …

Overview: Cluster Analysis

Overview: PCA, t-SNE
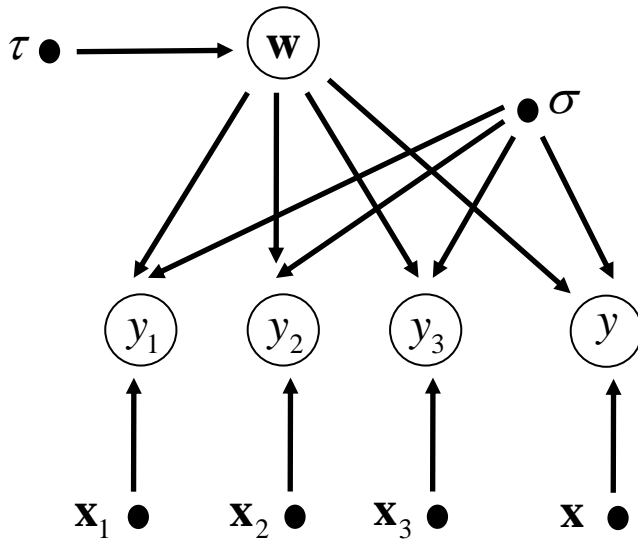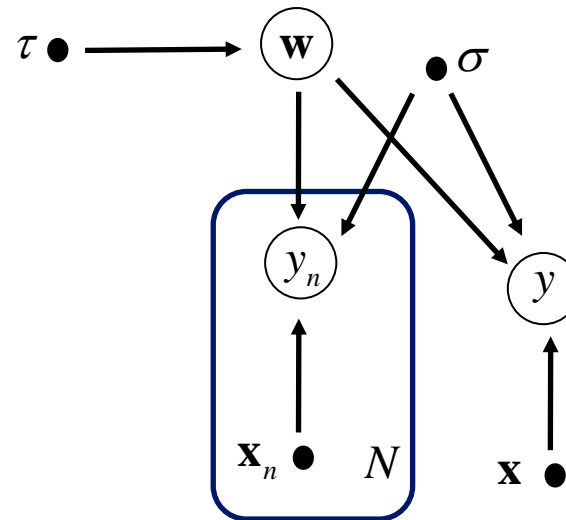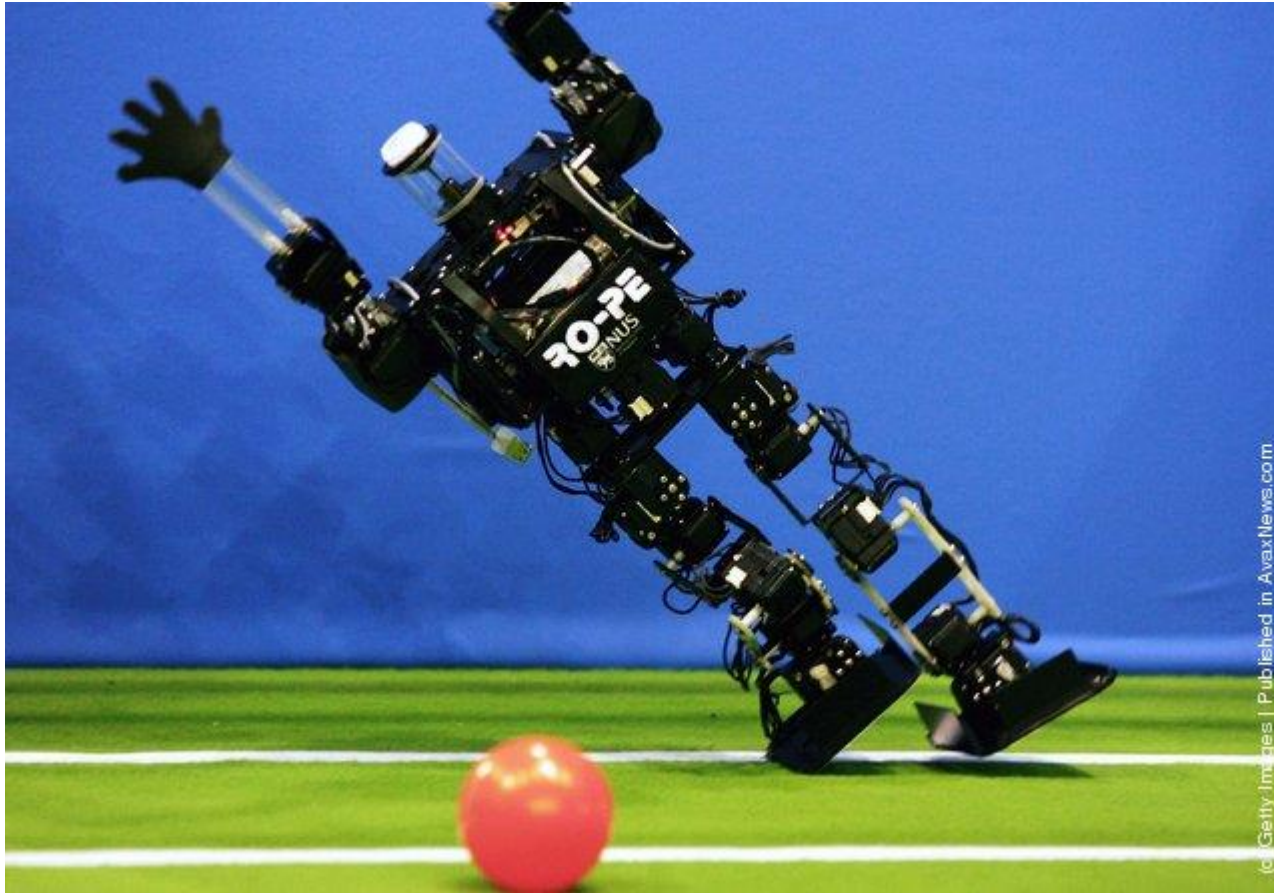

Subreddit Map by t-SNE

Overview: Graphical Models

Plate Notation

Overview: Reinforcement Learning

Questions?