Welcome to DATASCI 3000A!
"Intro to Machine Learning"

YOU WILL NOT BE TESTED ON THIS SLIDE DECK

Googling me

➕ Paperpile

Jacob Morra

Affiliation: University of Western Ontario

Research interests: Biologically-inspired Neural Networks, Machine Learning, Computational neuroscience

Profiles

Google Scholar

jacob morra

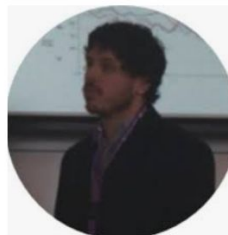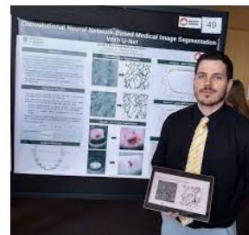🔍 All   🖼 Images   📰 News   📍 Maps   ▶ Videos   ⋮ More   Tools   🔖 Collections   SafeSearch ▾

What is "Machine Learning"?

In particular, we define machine learning as a set of methods that can automatically detect patterns in data, and then use the uncovered patterns to predict future data, or to perform other kinds of decision making under uncertainty (such as planning how to collect more data!) —Murphy (2012)

Field of study that gives computers the ability to learn without being explicitly programmed. —Samuel (1959)

Supervised Learning	Unsupervised Learning	Reinforcement Learning
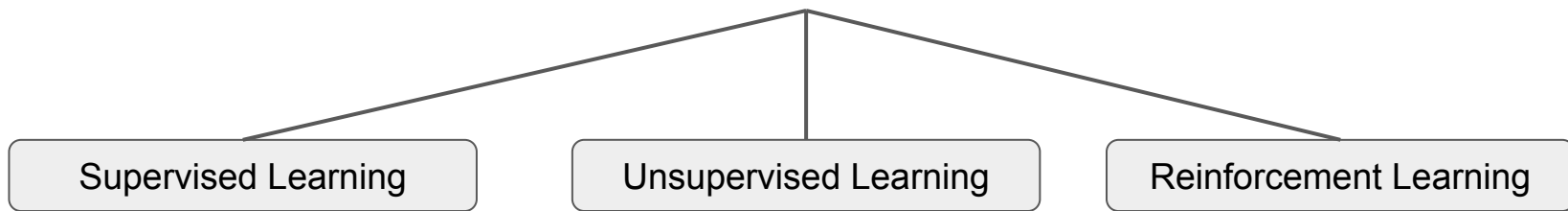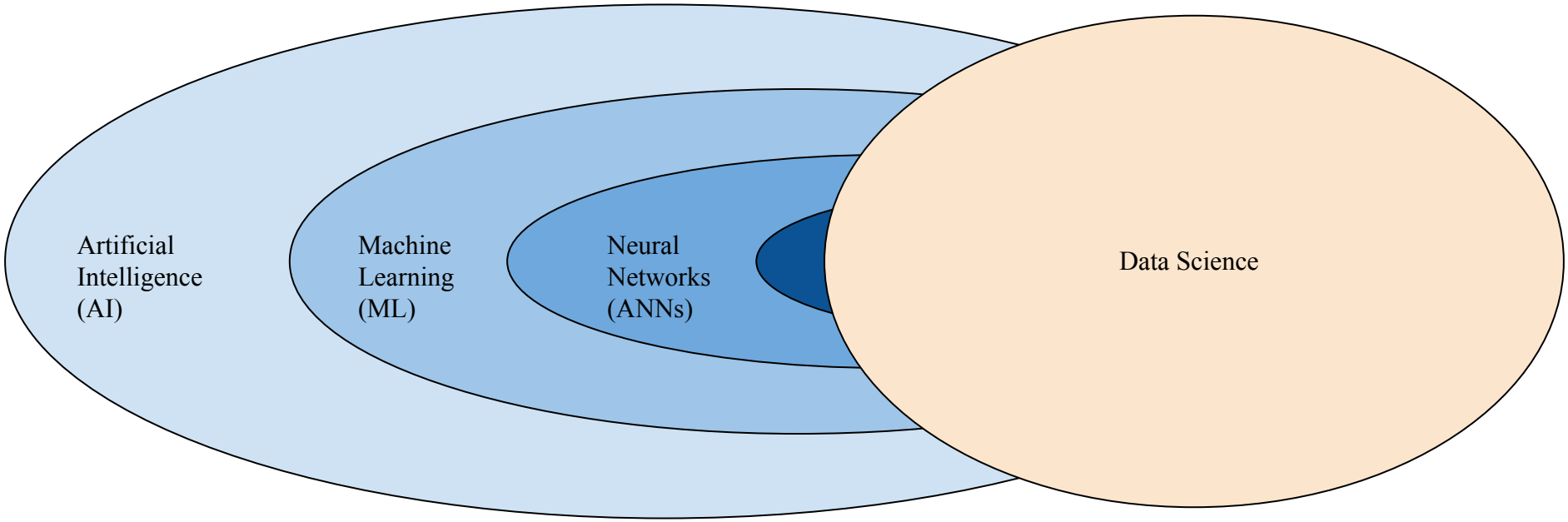
Artificial
Intelligence
(AI)

Machine
Learning
(ML)

Neural
Networks
(ANNs)

Data Science

Age

More examples...

Programmers incentivised it to go from point A to point B

Input Prompt: Recite the first law of robotics

GPT-3

Output:
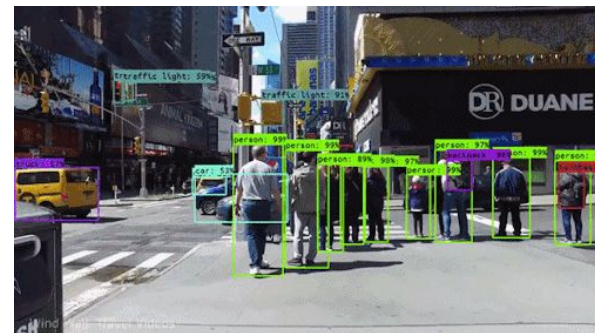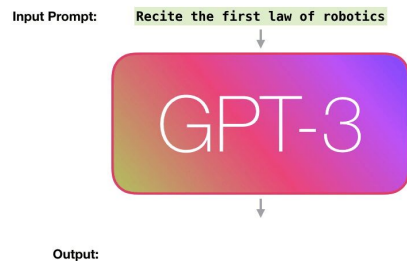
The point of this course

An **introduction** to data science and machine learning techniques

Three main components

1 Understand principles of techniques

2 Apply techniques to problems

3 Evaluate resulting applications

How it will run

Lectures, Labs (Tues, Thurs 2:30-4:30 PM)

Office hours (MC365, Tues 4:30-5:30 PM)

OWL (Announcements, Notes, Labs, Assignments)

Schedule (tentative)

| Week	Lecture (Tues, 2:30 @ MCB 113)	Lab (Thurs, 2:30 @ MCB 113)	Assignment
1 (Sep 14, 16)	L01: Supervised Learning	Lab1: Numpy/Pandas	A1: released Sep 16, due Sep 23
2 (Sep 21, 23)	L02: Statistics, Prediction	Lab2: Supervised Learning	A2: released Sep 23, due Sep 30
3 (Sep 28, 30)	L03: Classification, Evaluation	Lab3	...
4 (Oct 5, 7)	L04: Uncertainty	Lab4	A3: released Oct 7, due Oct 14
5 (Oct 12, 14)	L05: Test error, Cross-validation, Model selection	Lab5	A4: released Oct 14, due Oct 21
6 (Oct 19, 21)	L06: Feature Selection, Regularization	Lab6	...

Schedule (tentative)

Week	Lecture (Tues, 2:30 @ MCB 113)	Lab (Thurs, 2:30 @ MCB 113)	Assignment
7 (Oct 26, 28)	Midterm Review (L01-L06)	**MIDTERM 2:30 - 4:30 PM**	...
8 (Nov 2, 4)	READING WEEK		
9 (Nov 9, 11)	L09: Neural Networks, Deep Learning	Lab 9	A5: released Nov 11, due Nov 18
10 (Nov 16, 18)	L10: Trees and Random Forest	Lab10	A6: released Nov 18, due Nov 25
11 (Nov 23, 25)	L11: Clustering, Deploying Models	Lab11	...
12 (Nov 30, Dec 02)	L12: Dimensionality Reduction	Project Presentations	...
13 (Dec 07)	Exam Review	...	...

Next week

Tuesday, 2:30-4:30 @ NCB 113

Lecture 01:
"*Supervised Learning*"

Thursday, 2:30-4:30 @ NCB 113

Pandas Tutorial
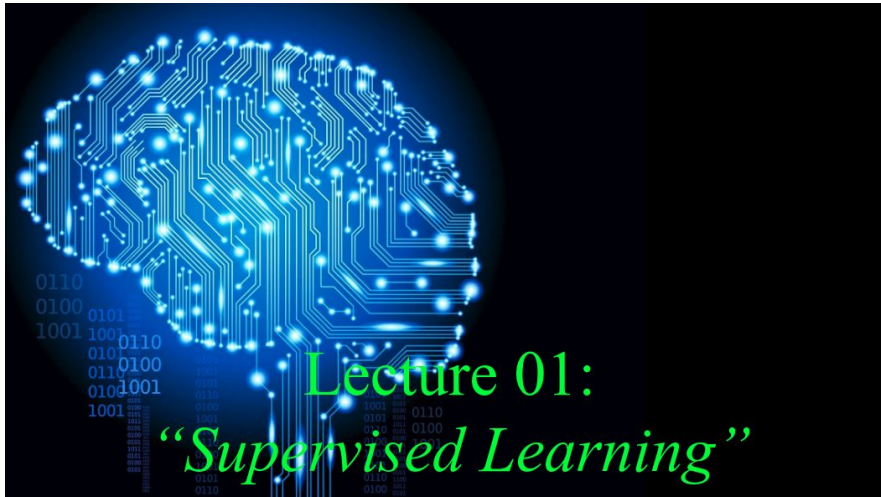
Your grades

Undergraduate

Assignments • Midterm • Final Exam

40.0%
25.0%
35.0%

Graduate

Final Project • Midterm • Assignments

35.0%
25.0%
40.0%

Questions?