Welcome! :D

Workshop 1
Feedback Form: tinyurl.com/f22-feedback

Who are we?

Names + year + anything else you want to share

Claire Huang
(she/her)
2nd year CSE
AR 60 :)

Venkat Bollapragada
(he/him)
2nd year CS
Loves Star Wars

Naman Modani
(he/him)
2nd year CS
Loved Star Wars till Disney

Our Mission

To develop and support a community of socially conscious students in the field of **Artificial Intelligence** at UCLA and beyond.

Our Values

- Technical Proficiency and Awareness in Artificial Intelligence
- Creating a Positive Impact on Society
- Diversity and Inclusion

Our Initiatives

Workshops

Events

acm.ai

Outreach

Projects

ACM AI Workshops

Beginner Track – What is ML?

- Basics of machine learning
- Implement linear and logistic regression

ACM AI Workshops

Advanced Track – Deep Learning

- Concepts like deep neural networks, CNNs, RNNs
- Basic knowledge of ML concepts expected

Beginner Track Schedule

Workshop 1: Intro to ML

Workshop 2: KNNs and Python

Workshop 3: Linear Regression

Workshop 4: Logistic Regression

Workshop 5: Machine Learning Libraries

Workshop 6: Guided Project

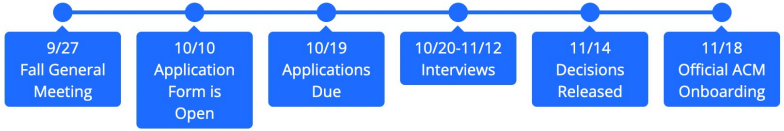
Workshop 7: Introduction to Neural Networks

Don’t panic.

Machine Learning can be daunting, but we’ve got you.
We’ll walk you through everything!

Apply to be an ACM intern!

Applications



9/27 Fall General Meeting

Come learn about the different ACM committees!

10/10 Application Form is Open

Fill out the application form for up to 3 committees that you would like to intern for

10/19 Applications Due

Submit your application by 11:59 pm

10/20-11/12 Interviews

A handful of applicants will be chosen for an interview with the committee(s) you applied to

11/14 Decisions Released

Hear back via Email what committee(s) accepted you (if you are accepted by two, decide which one you would like to intern for)

11/18 Official ACM Onboarding

Learn what you need to know as an ACM Intern

ACM is recruiting interns for Fall 2022!

Apply Now

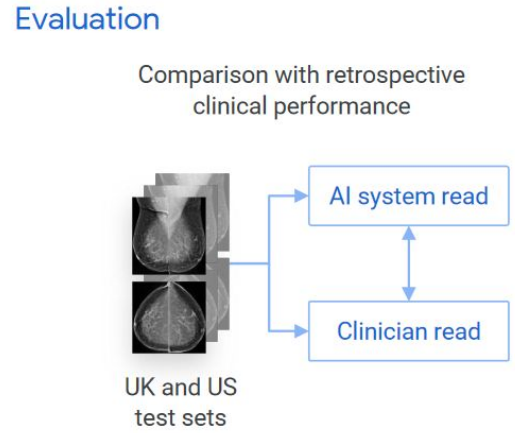

acm.ai
AI and ML in
Real Life

Computer Vision

Convolutional neural networks have achieved stunning results in computer vision!

Source: [Taking It to the Streets: Ride in an NVIDIA Self-Driving Car with DRIVE Labs]

Healthcare



Deep Learning techniques outperform trained specialists in some medical recognition tasks.

Image from: International evaluation of an AI system for breast cancer screening, BBC Article

Natural Language Processing

https://play.aidungeon.io/

Built with OpenAI's GPT-3 model - type anything you want!

Let’s play a game!

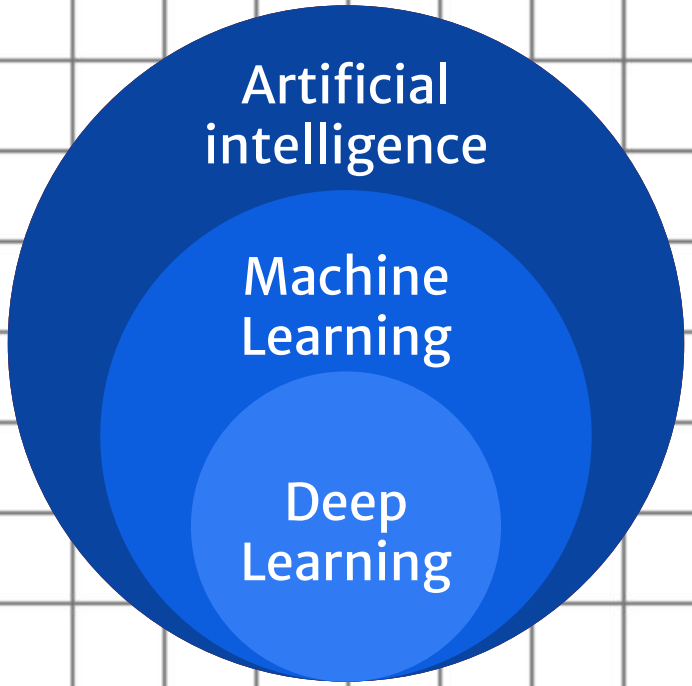
50-50

acm.ai

What is ML?

Great question!

acm.ai



AI vs ML vs Deep Learning

Now for some definitions:

Artificial Intelligence – A *concept*

- Allowing computers to perform tasks that normally require human intelligence
- Eg. seeing, hearing, moving, decision making

Now for some definitions:

Machine Learning – A *type* of AI

- A set of methods which can be used to allow computers to perform AI tasks without being explicitly programmed to do so.

What is a model?

"Something" that takes in an input and produces an output

- Eg. Takes in a picture and determines whether it is a cat or dog
- Eg. Takes in a sentence and translates it into French

Machine Learning helps us create such models through a process called training

Models can be continuous, or categorical ("*this* or *that*")


acm.ai
More on the Intuition

Question

What factors would you use to predict the price of a dorm room?

acm.ai

Machine Learning Pipeline

This can be in the form of a text file, spreadsheet, etc.

Create a model based on the trend of the data

Apply the model to real world data

Ethics!

acm.ai

Developer → Deployer → User:

AI systems aren't bad! It's always dependent on how we create and use these systems based on the risks and benefits they pose.

What ethical issues do you think exist?

Why Ethics?

Ethics

List of Ethical Topics covered in the track:

- Week 2: Bias and Prejudice in AI Systems
- Week 3: Privacy in Data Collection
- Week 4: Ethical Decision Making in AI
- Week 7: Explainability of AI Systems

Game time!

Intro to Python

Environment Setup

- We will be using Google Colab notebooks, which will come with all the packages pre-installed.
- The Anaconda Distribution is *not required* for this workshop series, but it's a great tool to work with Jupyter notebooks in general.

Quick Note

- If you do feel comfortable with Python already, feel free to leave and come back for our next workshop when we start talking about some ML models!

Break!

Python Tutorial

tinyurl.com/btrack-w1-python


acm.ai
Thank you!
Feedback Form: :)