

COMP-432: Machine Learning

Fall 2025

About the lab

Week 1 PPT

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ML in Real Life

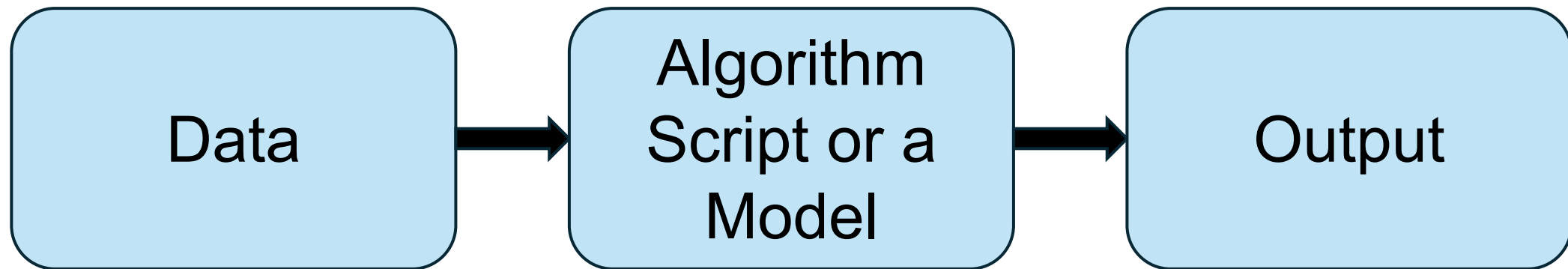
Some requirements

Some libraries

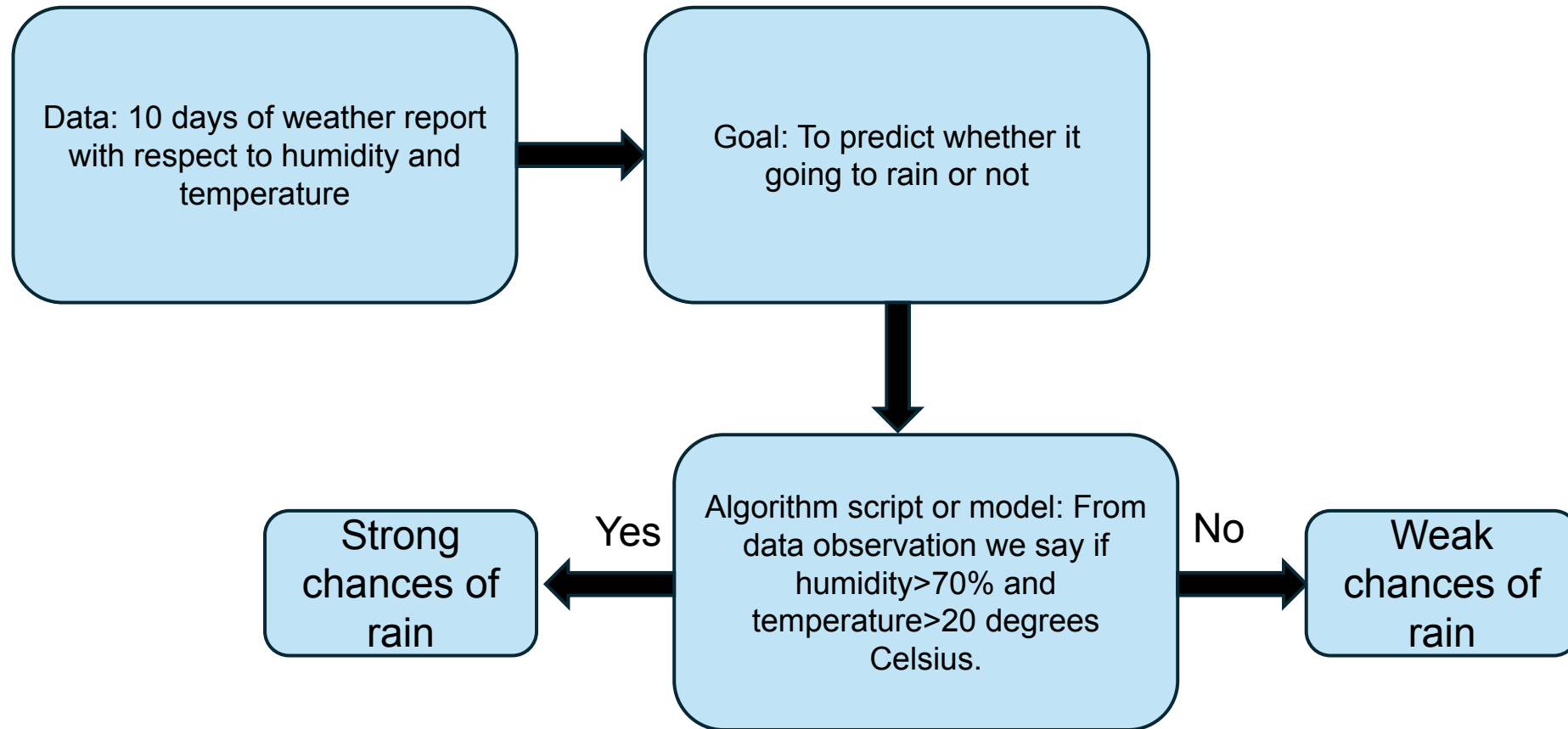
Python Library Basics

Math Review

What is Machine Learning



Example



A first-person perspective from the driver's seat of a Tesla vehicle. The driver's hands are resting on the steering wheel, which features the Tesla logo. The center console has a large, vertical touchscreen displaying a navigation map. The car is moving on a road, with a blurred background of trees and a yellow road sign visible through the windshield. The text "ML in real Life" is overlaid in the center of the image.

ML in real Life

ML in real Life

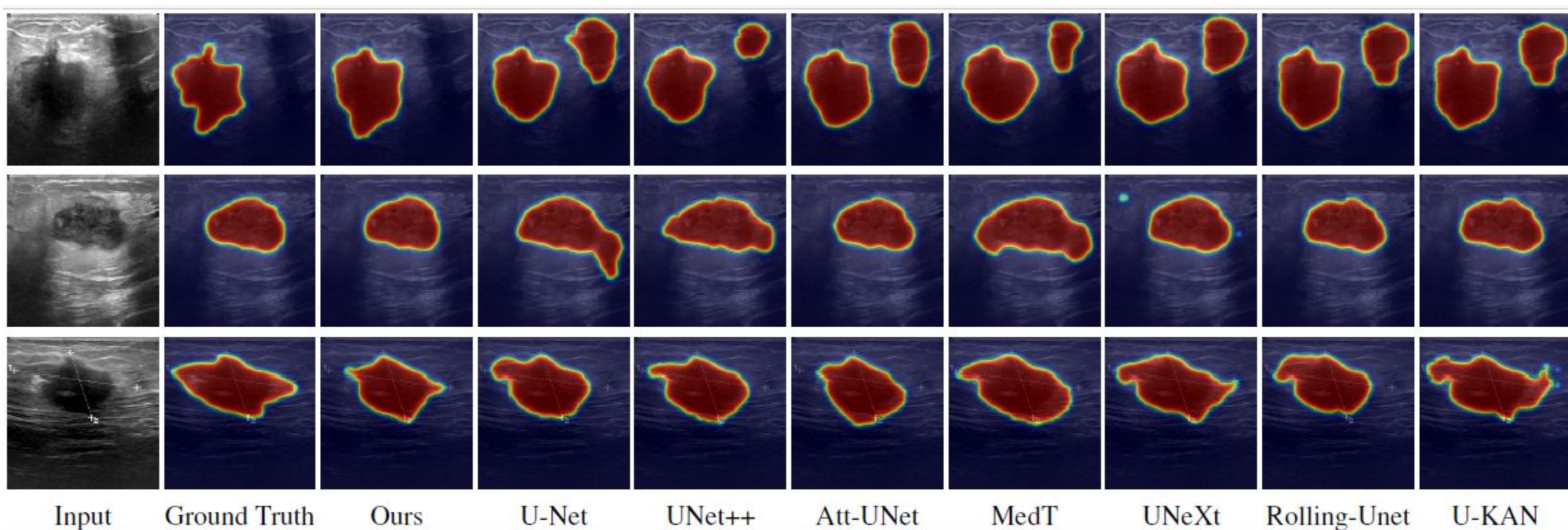
Healthcare

Recommendation
Systems

Finance

Self Driving Cars

Examples from My project



Some Requirements

Basic Python
Programming

Basic Understanding of
Math Algebra

Basic Statistics
understanding

Python Installation

Use Anaconda install
for Python

For some basic
implementation can
also try Google colab

Some important Libraries

NumPy – numerical computing, arrays, linear algebra

Pandas – data handling, cleaning, tabular datasets

Matplotlib / Seaborn – data visualization

Scikit-learn (sklearn) – classical ML algorithms (LogisticRegression, Decision Trees, etc.)

PyTorch – deep learning framework (neural networks, GPU support)

Python Library Basics

Basic Operations from Numpy

Basic Operations from pandas

Basic operations from Matplotlib

Basic Operations from pytorch

Basic Operations from
Scikit-learn

Math
Review

Probability
Concepts

Linear Algebra

Thank
You