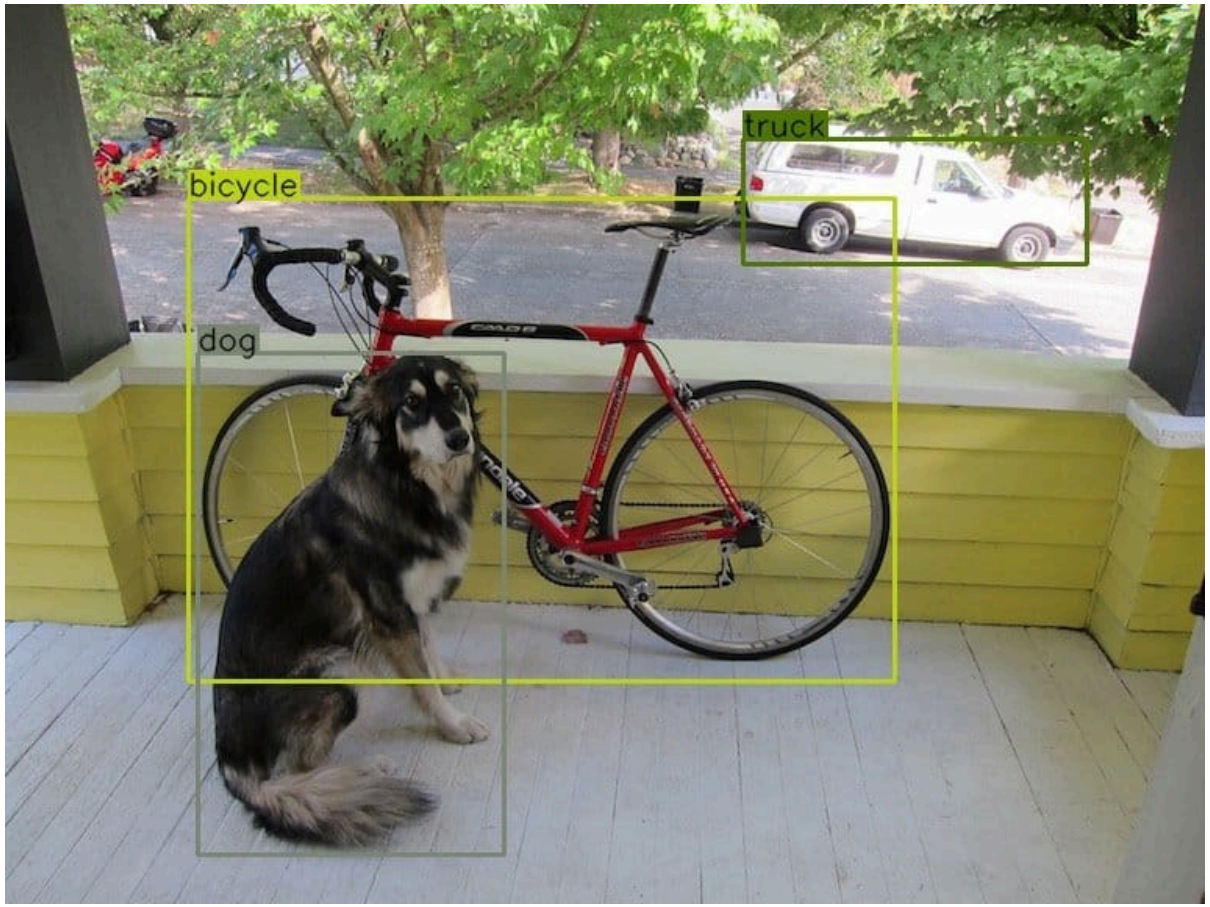
CAP 1931 - The content and perspective of this class

What is a tool? Hammer

What is a tool? Object detection



Questions to ask about tools

- What does it do? What is the input / output?
  - How do I know it is a good one?
- How do I use it? Where can I get one? How much does it cost?
- What are the benefits? Can I use it in my work? To make money?
- Can it be dangerous if not used correctly? Can it be abused by malicious people?

Artificial intelligence for all

- This class intends to teach an audience of computer literate students how to **use** artificial intelligence technologies to achieve various **tasks**.
- The goal is achieve a **high-level understanding** of the various AI technologies.
- We will also raise awareness of challenges, **dangers**, pitfalls.

What tasks?

- granting or declining a loan request
- predicting the sale price of a house
- classify medical images
- identify the cars in a parking lot and count them
- summarize a long newspaper article in a paragraph
- reformulate a text for a younger audience
- generate cover letters for submission of a movie script to a studio
- given a photo, modify the picture in the style of a painting

Do it yourself

- We will focus on doing these tasks by **running programs**
- As much as possible **on your own computer**
- With input / output controlled by you.

Do I need math?

- Yes. We expect that you know math at a highschool Algebra I. level.
  - If plotting a parabola terrifies you, this is not the class for you.
- For this class you **do not need**:
  - Linear algebra
  - Calculus
  - Multidimensional calculus etc.

Do I need programming skills?

- No. This class does not require you to write programs.
- However, we expect you to be **computer literate**
- You need to know:
  - how to download and install programs on your computer
  - how to download and name files
  - copy, rename files, navigate folders
  - run programs, change parameters in programs etc.
  - edit text

Structure of a lecture

- We will follow the same structure for all the technologies presented

The problem

- We will introduce the problem in about two slides with a blue background

The solution

- We will describe the solution in about ten slides with white background

Applications

- We discuss practical applications in about five slides with green background

Pitfalls and dangers

- We discuss pitfalls and dangers of these technologies in about two slides with a red background

Try it out + Homework

- We present the technology in a practically implemented form, usually as python code in a Jupyter notebook.
  - Sometimes it will be code available on the web
- We discuss the implemented application in about two slides with an orange background, then proceed to demonstrate it.
- Often, your homework will be to run this code on your computer
  - often with different data
  - sometimes with different parameters
  - you will not need to write code

CAP 1931

- Instructor: Lotzi Bölöni `http://www.cs.ucf.edu/~lboloni/`
- Slides, homeworks, links etc:
  `http://www.cs.ucf.edu/~lboloni/Teaching/CAP1931_Spring2026/index.html`
- Class hours: Mon, Wed 3:00PM - 4:15PM HEC-119
- Office hours: Mon, Wed 4:30PM - 6:00PM HEC-319