



Liability in the area of robotics, AI and ML

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What this presentation covers

- Semantics and metaphors are important
- Some distinctions
- What we do and what we do not do
- Three near term challenges for AI/ML
- A few general considerations on responsibility and liability



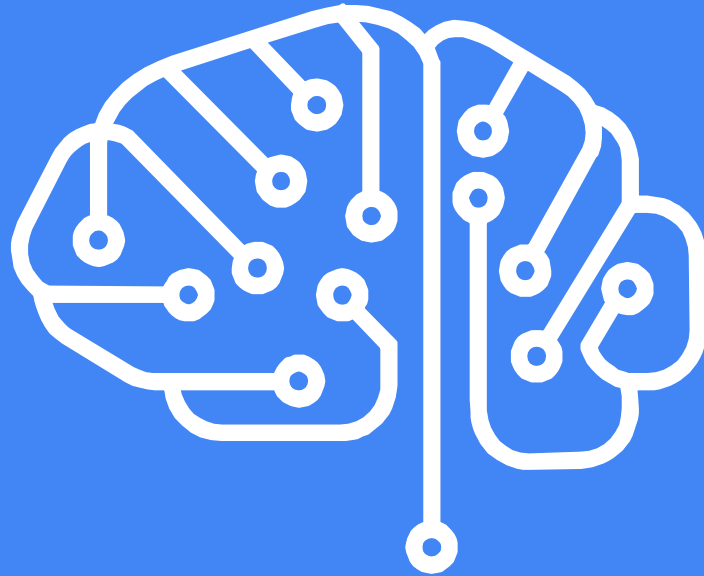
“Machine learning is a core, transformative way by which we’re rethinking how we’re doing everything.”

Sundar Pichai

AI and Machine Learning

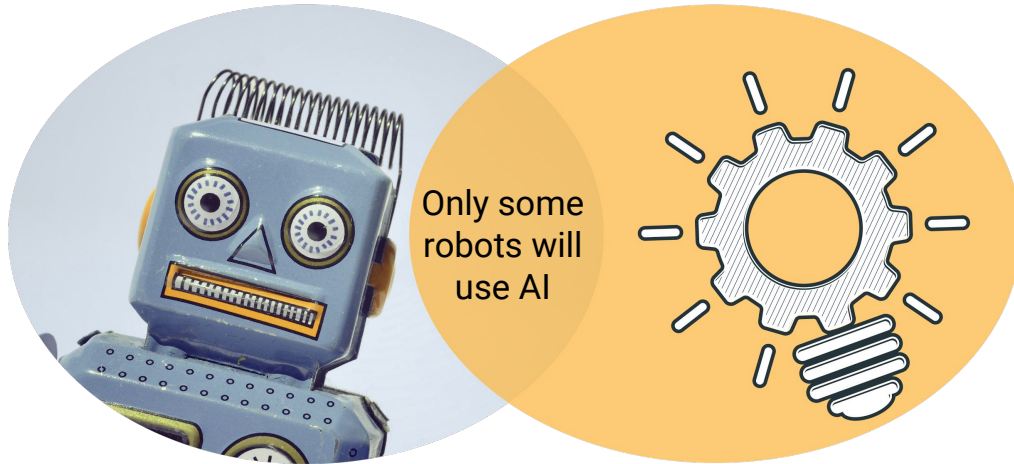
AI is the science of making things smart

Machine learning is a technique used to develop AI

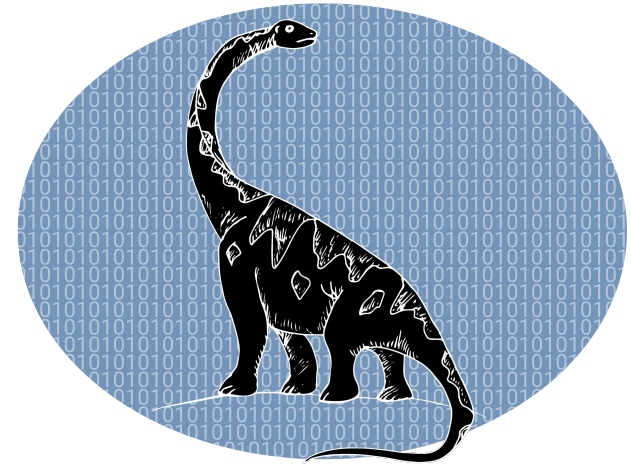


Two common confusions

AI \neq robotics



AI is not new



A different way of doing things

Write a computer program
with **explicit rules** to follow

```
if email contains  
V!agrå  
    then mark is-spam;  
if email contains ...  
if email contains ...
```

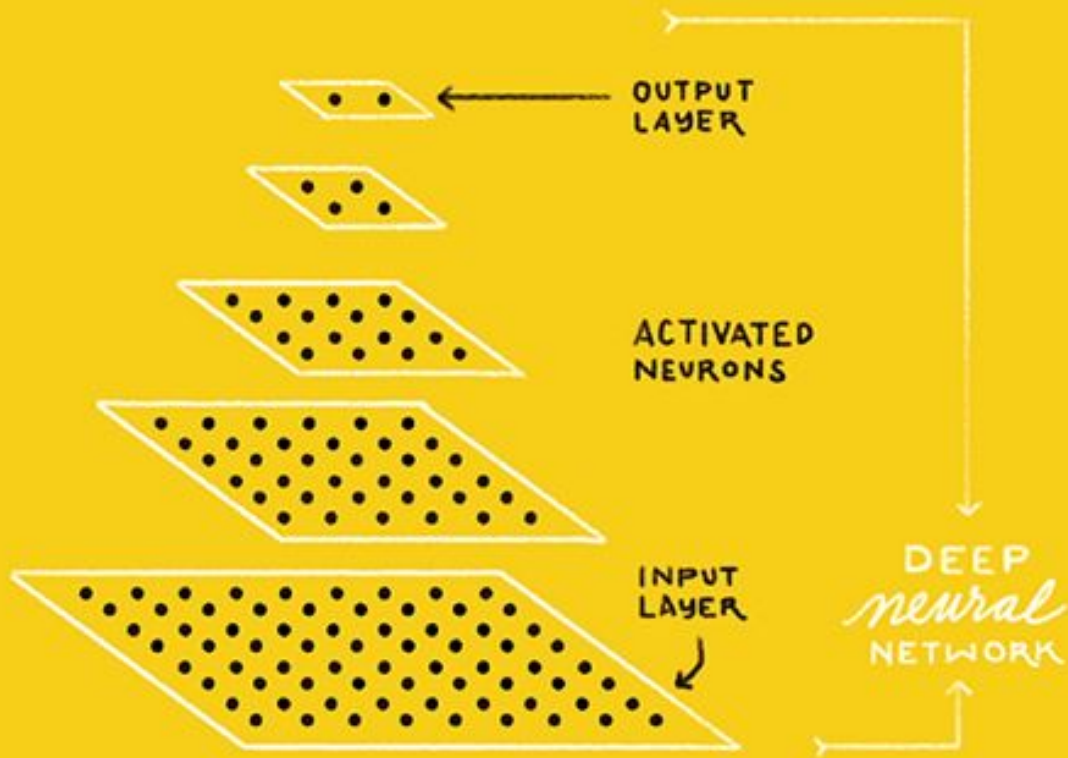
Write a computer program
to **learn from examples**

```
try to classify some  
emails;  
change self to reduce  
errors;  
repeat;
```

IS THIS A
CAT or **DOG**?



CAT DOG





Google Translate





Google Home



Preserve open research norms and practices

- Openness
- We publish papers, datasets, models
- <https://research.google.com/>
- TensorFlow
- Google Cloud Platform

Focus research on tangible problems

- Safe implementation
- Bias, discrimination
- Rigorous research
- Promote release of datasets
- PAIR (People + AI Research initiative):
- Partnership on AI

Diversify the community working on ML

- Include different backgrounds, experiences and values
- Investment in education
- Google commitment

Considerations on responsibility and liability (I)

- No such thing as general purpose AI
- Do not linger in ontological debate
- Focus on application level, design, implementation and use
- Sector specific regulation
- Industry standards and best practices
- Technology neutral

Considerations on responsibility and liability (II)

- Distinguish between embodied (robots) and unembodied agents
- AI vs connected devices
- Personal and property damage vs mere economic loss
- Public vs private actors
- B2B vs B2C
- Human rights aspects

Is this really new?

- Automation risk
- Complexity risk
- Autonomy risk (“accountability gap”)

Closing remarks





Thank you

