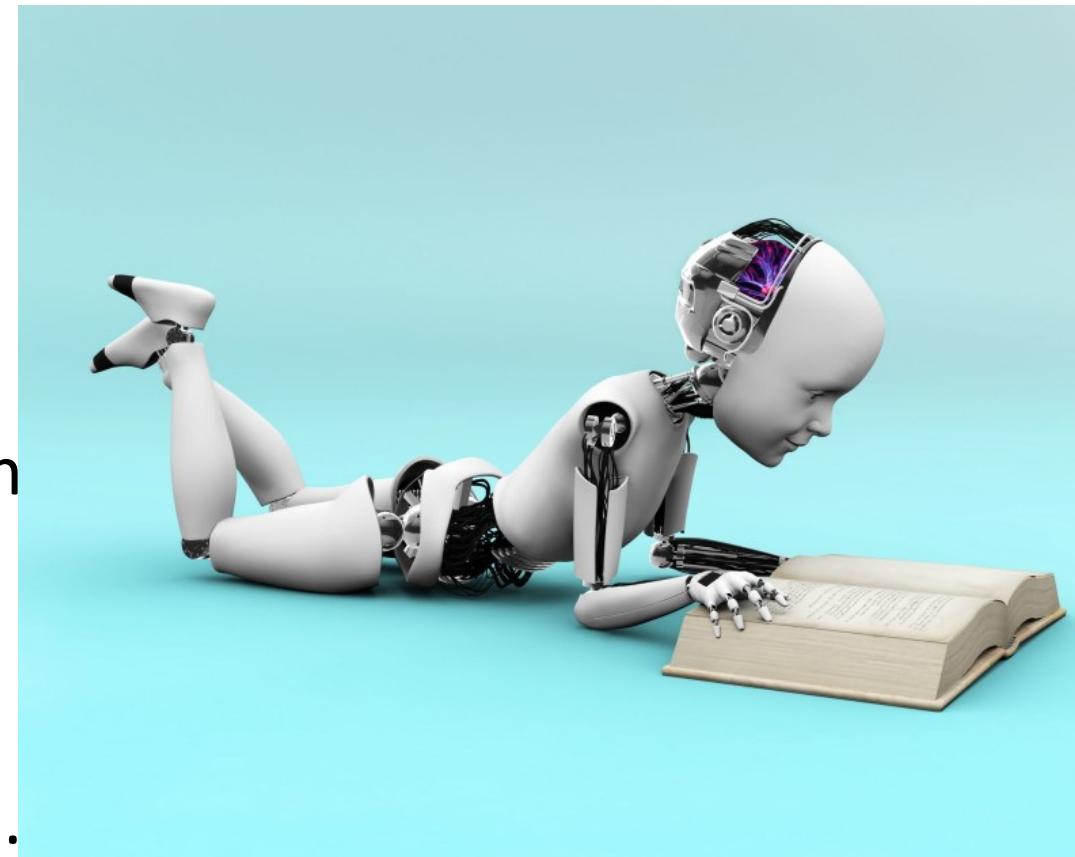


# ML - Introduction

# Machine Learning

- You have probably written programs (code) in the past.
- You had to program every possible situation  
Think of "if – then – else" statements.
- What if machines could learn by themselves from their environment or data.

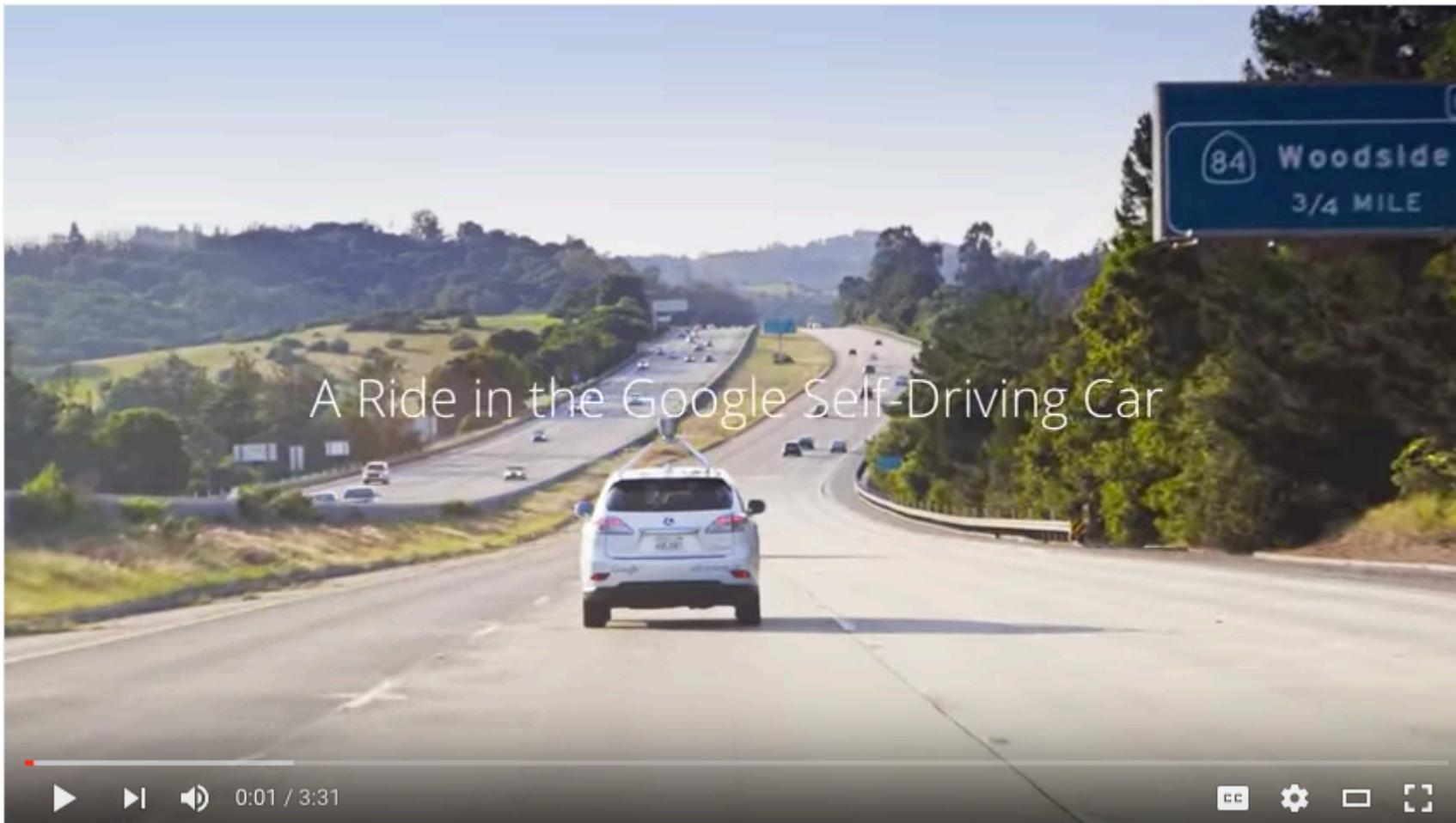


# Machine Learning

- Machine learning is a method of data analysis that **automates** analytical model building.
- Using algorithms that **iteratively learn from data**, machine learning allows computers to **find hidden insights without being explicitly programmed where to look**.
- Sounds too good to be true? Well, it's already being widely used. Let's look at some examples:

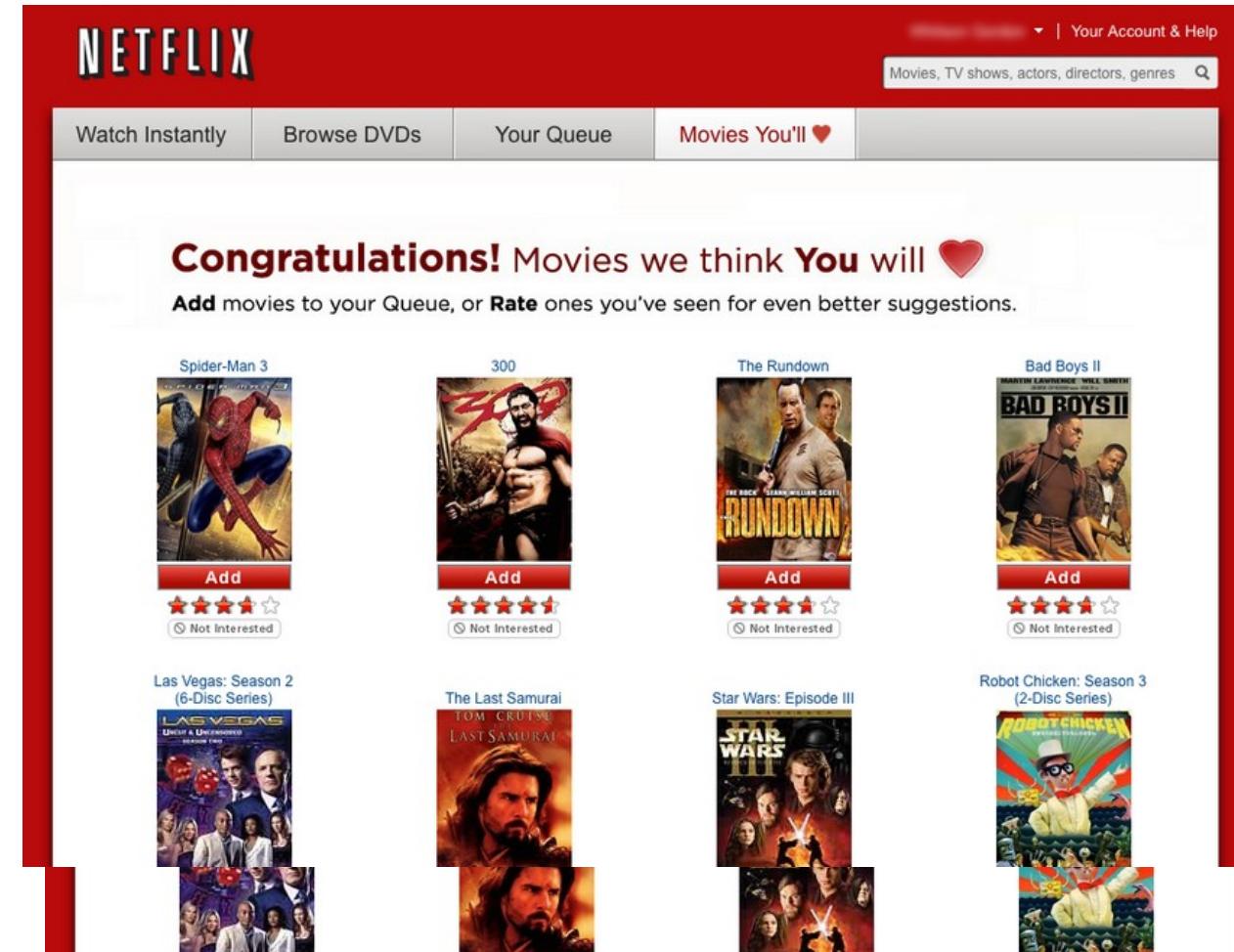
# Machine Learning Examples

- Google Self Driving Car



# Machine Learning Examples

- Online Recommendation Systems
- System learns from your
  - purchase data
  - browsing history
  - viewing history
  - email data



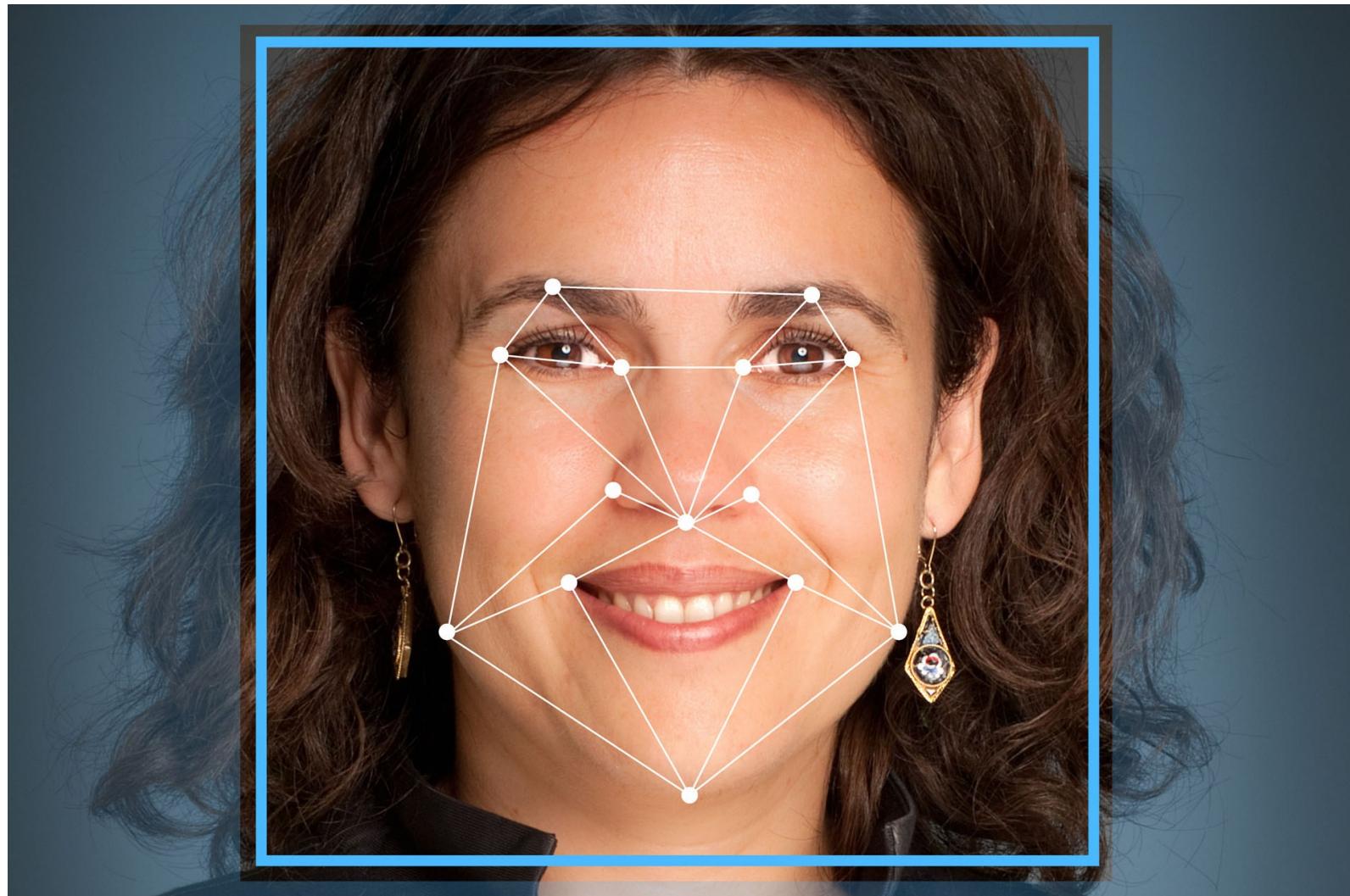
# Machine Learning Examples

- Spam Filtering
- Learning from features of spam emails



# Machine Learning Examples

- Facial Image Detection



# Skills Needed

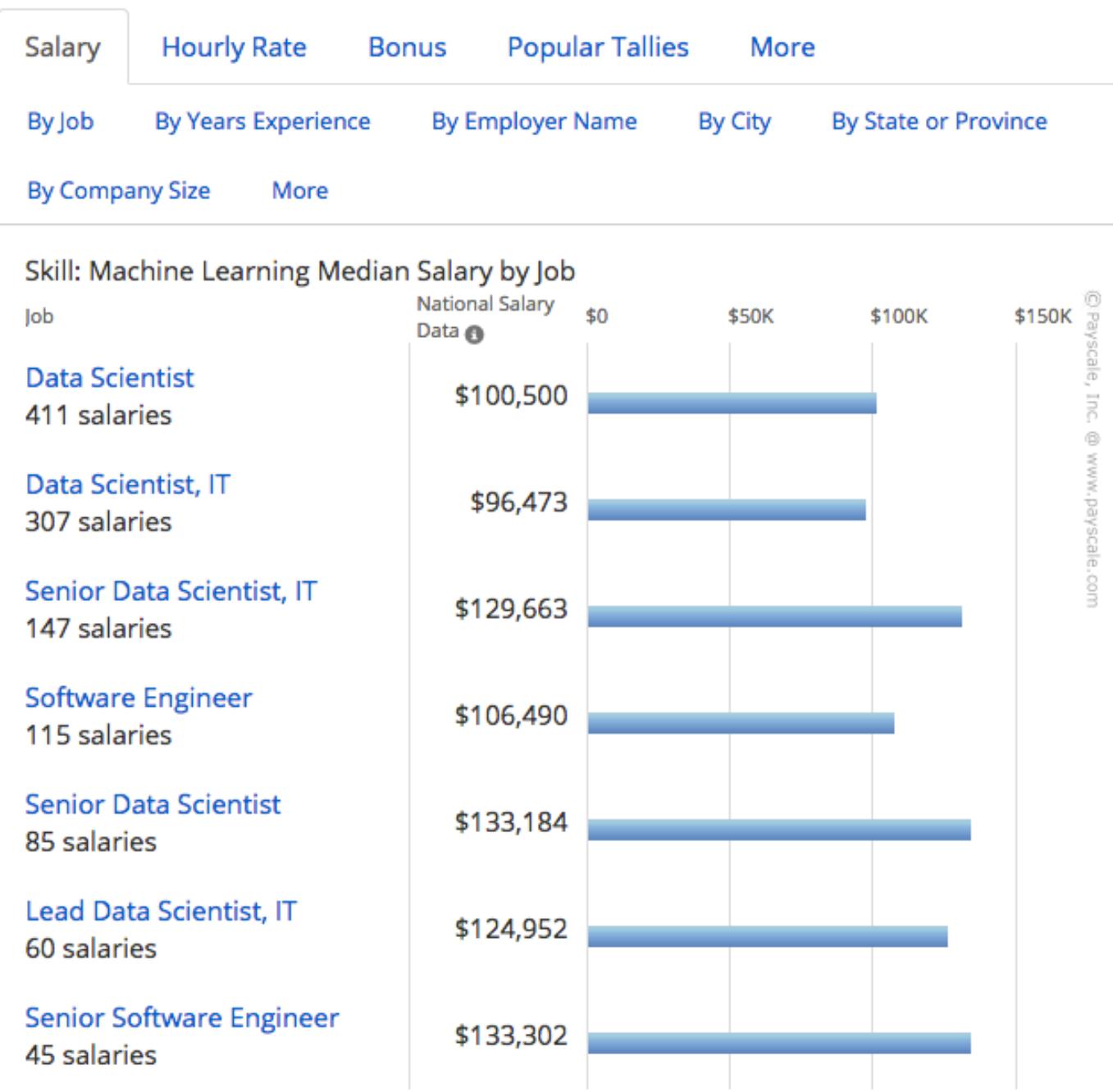
I want to be a machine learning scientist -  
What do I need to do / learn?

- Strong math background
- Love data
- Programming skills
- Data analysis / pattern identification
- Ability to convey results to clients / users



# Average Salary for Skill: Machine Learning

# Salary



# Opportunities

- All major companies are seeking **skilled** machine learning / data scientists.
- Too many to name ☺

# Let's get started

- What will this course teach me?
  - Basics of ML
  - Review of probability and statistics
  - Foundation of learning
  - Various learning instances (techniques)
  - How to apply ML to real world datasets
  - How to analyze data and results
  - How to communicate those results

