

Probability for

HACKERS



Nipun Advilkar
Pycon India 2017

< About me >

- Machine Learning Engineer @Juxt-Smart Mandate
- AI and ML Enthusiast
- Likes to crack puns- Ni..pun (^-^)
- @nipunsadvilkar on GitHub
- More on website:

<https://nipunsadvilkar.github.io/>

#Questions:

1. How many of you are from heavy mathematical background?
E.g. Engineering, Physics
2. How many of you have used ML libraries like sklearn in your work?
3. How many of you want to get into following fields?
 - Artificial Intelligence
 - Machine Learning
 - Deep Learning
 - Data Science

MOTIVATION #1



CS229 Machine Learning Autumn 2016

Course Information

Instructors:

Andrew Ng, John Duchi

Course Description

This course provides a broad introduction to machine learning and statistical learning (generative/discriminative learning, parametric/non-parametric learning, neural networks, dimensionality reduction, kernel methods); learning theory (bias/variance tradeoff, PAC learning, VC dimension, control). The course will also discuss recent applications of machine learning, including bioinformatics, speech recognition, and text and web data processing.

Prerequisites

Students are expected to have the following background:

- Knowledge of basic computer science principles and skills, at a level sufficient for CS229.
- Familiarity with the probability theory. (CS 109 or STATS 116)
- Familiarity with linear algebra (any one of Math 104, Math 113, or CS 209).

Prerequisite for any famous
AI and ML course/Book

Deep Learning

An MIT Press book

Ian Goodfellow and Yoshua Bengio and Aaron Courville

Deep Learning

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Hackers' approach to learn Math

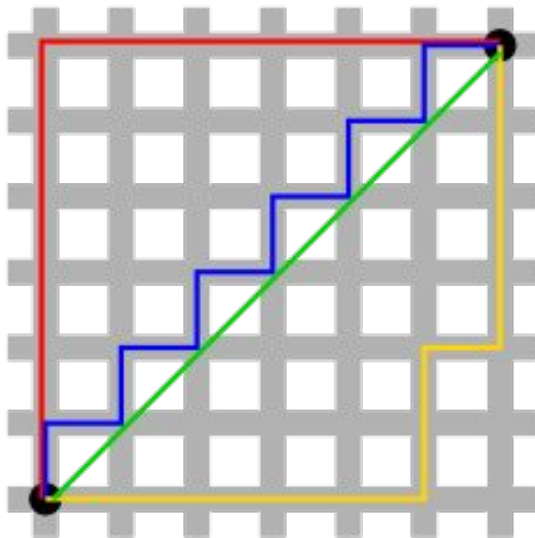
- Math is difficult but through coding, we can make it more interactive and intuitive.
- I like this quote:

"Statistics is **Hard**.
Using programming skills it can be **easy**"
– Jake VanderPlas (*Statistics for Hackers - Pycon 2016*)
[Same for Probability]
- Though, I want you to focus more on concepts and not on code (Code is available on GitHub. Have a look at it later)

MOTIVATION #2

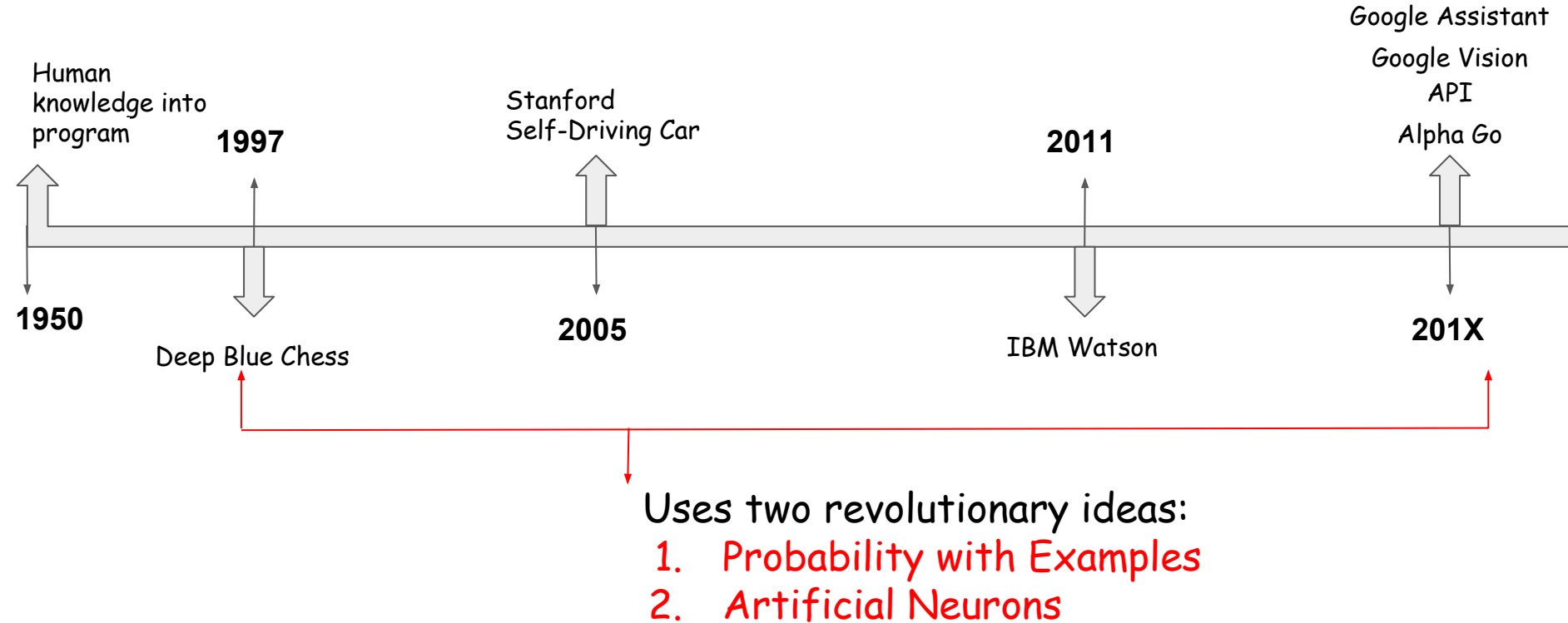
Modern AI

"Study and design of any agent that behaves in an intelligent way"



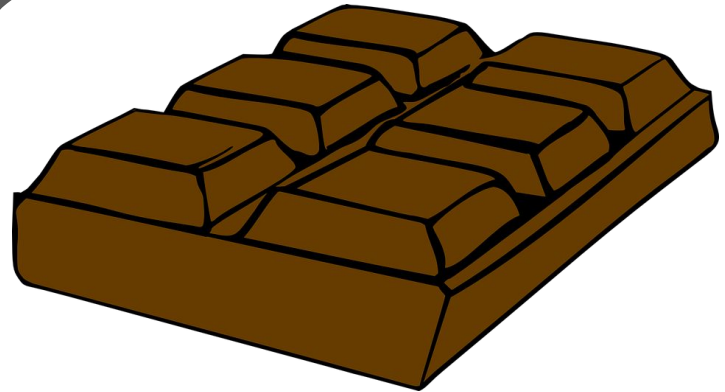
MOTIVATION #2

HISTORY OF AI



Demo Time!🕒

WHO LIKES CHOCOLATES
HERE?



Let's get started...!

With the Jupyter Notebook

