

Introduction to Machine Learning,

K-Nearest Neighbour in action!

Hello!

I am Iga Narendra

A guy who cannot label himself a machine learning engineer, a data scientist, or just simply a carbon-machine powered with chemical reaction

but he made something in life:

<https://iganarendra.my.id/machinelearning>

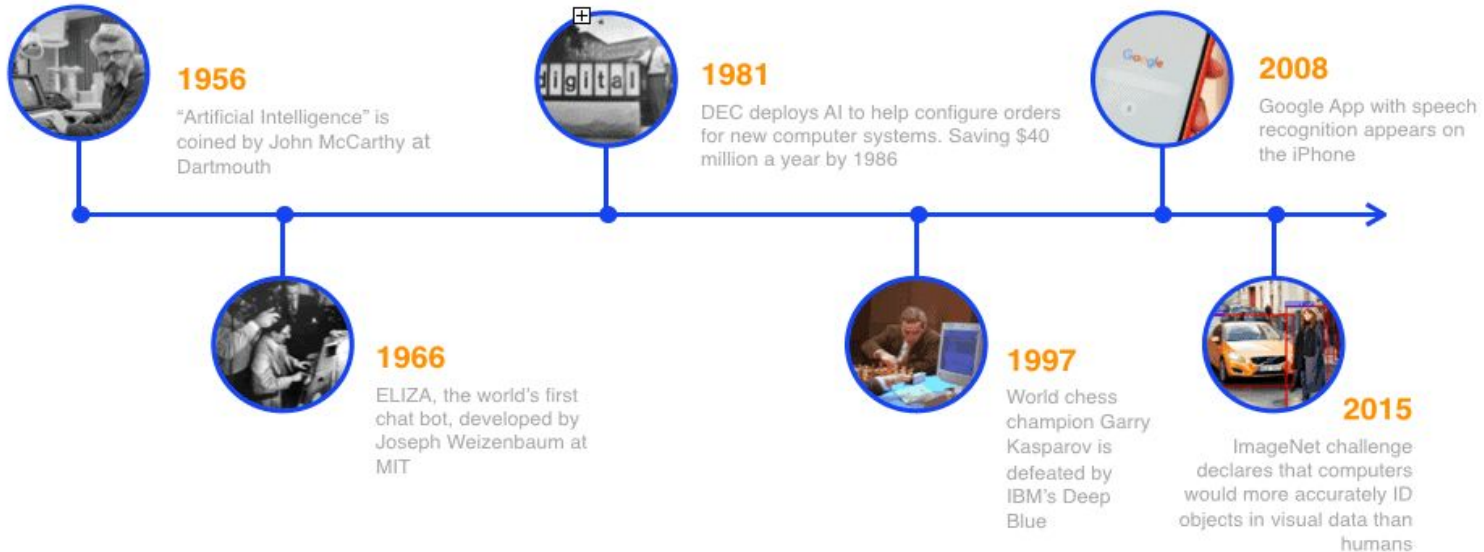


Outline

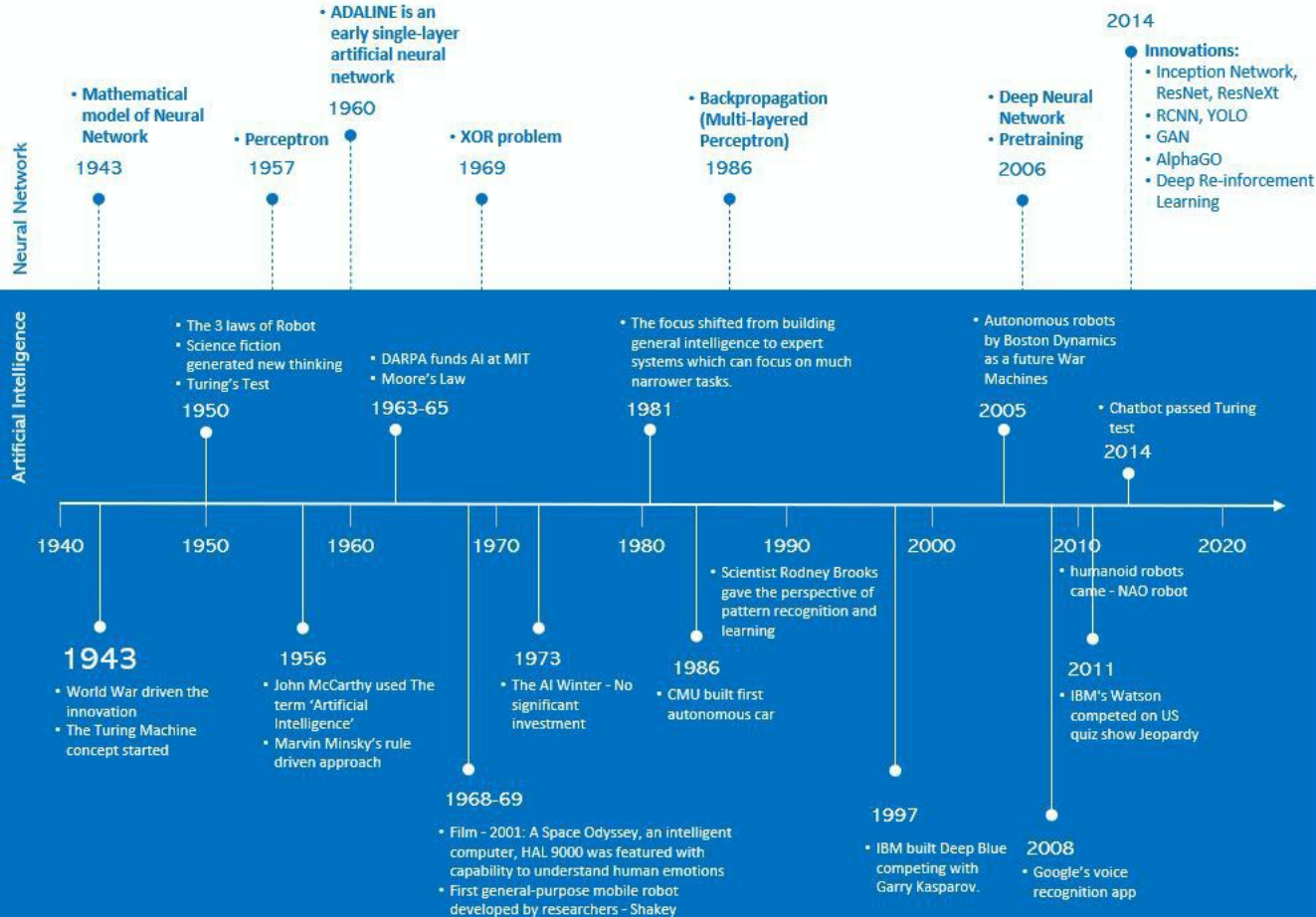
- - A brief history and WHY machine learning?
- - (trust me you still confuse between) Big data vs data science vs artificial intelligence
- - How this thing actually works (in a simplest form)
- - What is KNN?
- - Math Math Math~
- - Programming Implementation, "Halo" vs "Hai" classifier

History of AI

Artificial Intelligence Milestones



A perspective on the history of Artificial Intelligence



Primary Drivers of AI besides Algorithm

- Mobile revolution – the availability and adaptation of mobile devices
- Data Revolution – availability of data, cheap storage, cloud technologies
- Talent – Jacobstein's thesis is that humans are as critical to the AI equation as machines
- Democratization – initiative like OpenAI

Making Computer think - reinforcement Learning



WHY AI?

- Automation (know the rules),
- Things just get way more complicated (ML: Data first, rules later)
- Things that yea boi we understand but how to code them? (DL)

Big data processed with data science for AI usage

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5 Big Data and AI Stats

Strategic Priority

Businesses that say AI is a strategic priority for their business today

83%



95%

Skilled Execs

Users of Big Data to solve business problems also use AI technologies

Lead the Way

Businesses that say AI and Big Data gives them a competitive advantage

84%



90%

Financial AI

Interactions managed by bots in banks by 2022.

CX and AI

Customer interactions via phone and chat by 2025.

95%



AI, ML, and DL



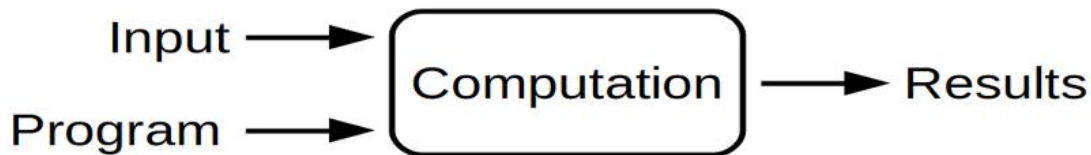
How stuffs work

"Machine learning is a form of artificial intelligence (AI) that teaches computers to think in a similar way to how humans do: Learning and improving upon past experiences. It works by exploring data and identifying patterns, and involves minimal human intervention."

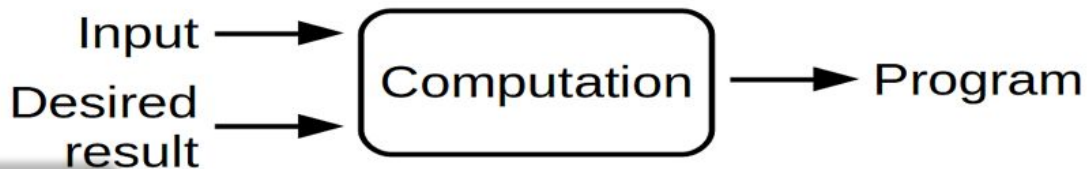
(Algorithmia.com, 2020)

How stuffs work

Traditional programming



Machine learning



Kkay- Nearest Neighbours

Look at your 5 closest friends.
Those 5 friends are who you
are. If you don't like who you
are then you know what you
have to do.

- Will Smith

 [greatesttweets](#)

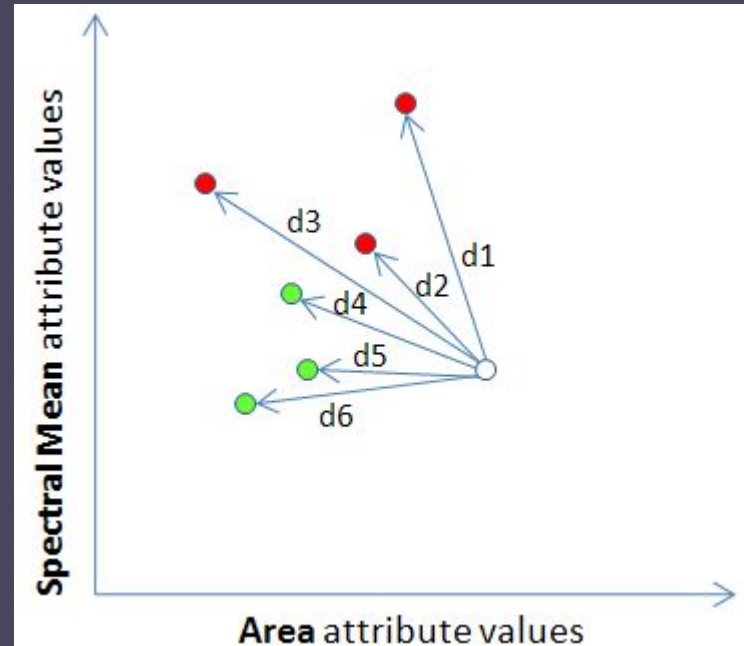
Okay how? Euclid can tell me

$$d(x, y) = \sqrt{\sum_{i=1}^n (y_i - x_i)^2}$$

For N-Dimensional data

$$d(\mathbf{p}, \mathbf{q}) = \sqrt{(p_1 - q_1)^2 + (p_2 - q_2)^2 + \cdots + (p_i - q_i)^2 + \cdots + (p_n - q_n)^2}.$$

Then, pick ... amount of
friend(s)!



Still not sure how? Share screen time....

hang in there i am
moving to
my tablet



Trust me that is the end
for the math in this whole
WCC

Now, let's code!
"Halo" vs "Hai" using K-NN