

Can
Artificial Intelligence
replace
Software Engineering ?

Date : 9th April 2022 | Speaker : Ayon Roy |
Event : Webinar by GDSC IIIT Noida, India

Visit - [AYONROY.ML](https://ayonroy.ml)

Hello Buddy!

I am **Ayon Roy**

Executive Data Scientist @ NielsenIQ

Mentored/Judged **95+** Hackathons

Delivered **60+** Technical Talks

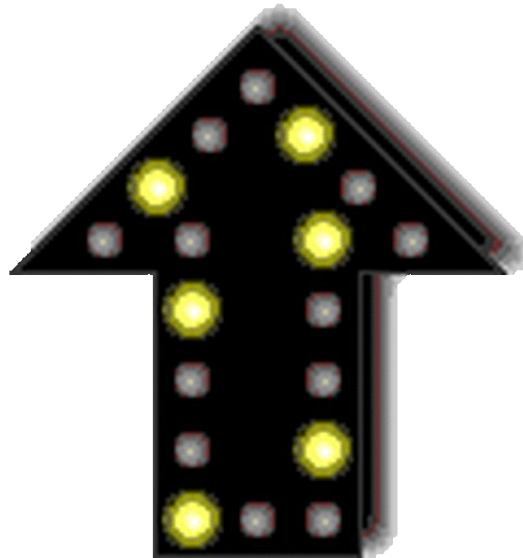
Brought **Kaggle Days Meetup** Community in India for the 1st time

If you haven't heard about me yet, you might have been living under the rocks. Wake up !!

Agenda (9-4-2022)

- What is Artificial Intelligence ?
- What is Software Engineering ?
- Where do you see these ?
- What are the differences ?
- What's the current scenario ?
- What's in the Future Store ?
- What to do now ?

What is Artificial Intelligence ?



It is an academic discipline coined in the 1950s; which is often used to describe machines (or computers) that **mimic cognitive functions of the human mind**, such as learning and problem solving.

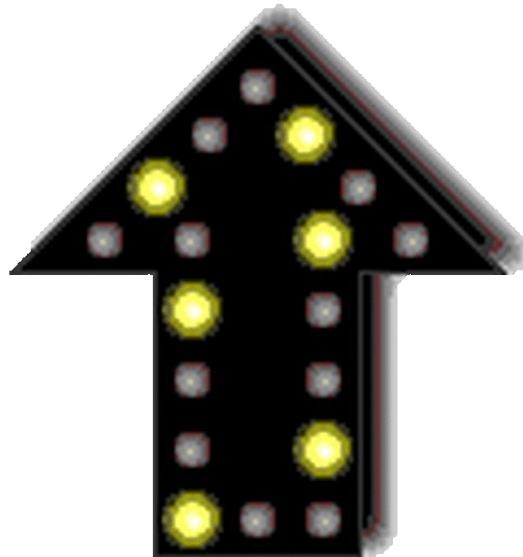
It's an art of training machines to perform tasks.

Machine Learning is a subset of AI which trains the machine so that it starts learning along **with a knowledge about what to learn & how to learn**

Where to start ?

<https://github.com/iAyon/100DaysOfMLCode/blob/master/Coursework.md>

What is Software Engineering ?



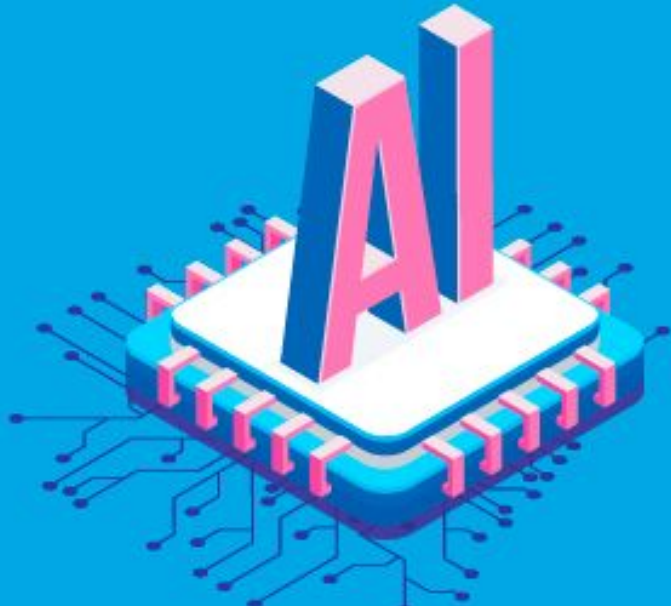
It is an engineering discipline that is **concerned with all aspects of software production** like design, implementation, and maintenance of complex computer programs.

It's an art of dealing with the **systematic application of engineering approaches to the development of software.**

**But where do you
see these ?**

Artificial Intelligence

Applications



- ▶ Deep Learning Applications
- ▶ Predictive Analytics
- ▶ Translation
- ▶ Classification and Clustering
- ▶ Information Extraction
- ▶ Speech to Text
- ▶ Text to Speech
- ▶ Image Recognition
- ▶ Machine Vision
- ▶ Planning, Scheduling and Optimization
- ▶ Robotics
- ▶ Expert Systems

Software Engineering



What are the
Differences ?

Software engineers generally focus more on technology for building web & mobile applications, which helps in getting user information.

Artificial Intelligence engineers focus more on statistics, mathematics & technology to convert this information into useful intelligence that businesses can use.

Software Engineering teams are mostly busy implementing new features. Artificial Intelligence teams are mostly busy running experiments.

AI teams work towards ingesting and examining data sets to better comprehend a problem and drive the best solution.

Software Engineering teams work towards approaching tasks with already existing methodologies and frameworks to drive the best solution.

The tools used by Software Engineering teams and Artificial Intelligence teams are a bit different

AI teams use tools for data visualization, data analytics, ML, predictive modeling etc.

Software engineering teams uses tools for software analysis and design, programming languages, software testing, and a lot more.

The skill set of Software Engineering teams and Artificial Intelligence teams vary

AI teams have a strong hold on programming, statistics, machine learning, data visualization, deep learning.

Software engineering teams have a strong hold on programming, software development lifecycles, Data structure

Your participation in the company's goal differ a bit

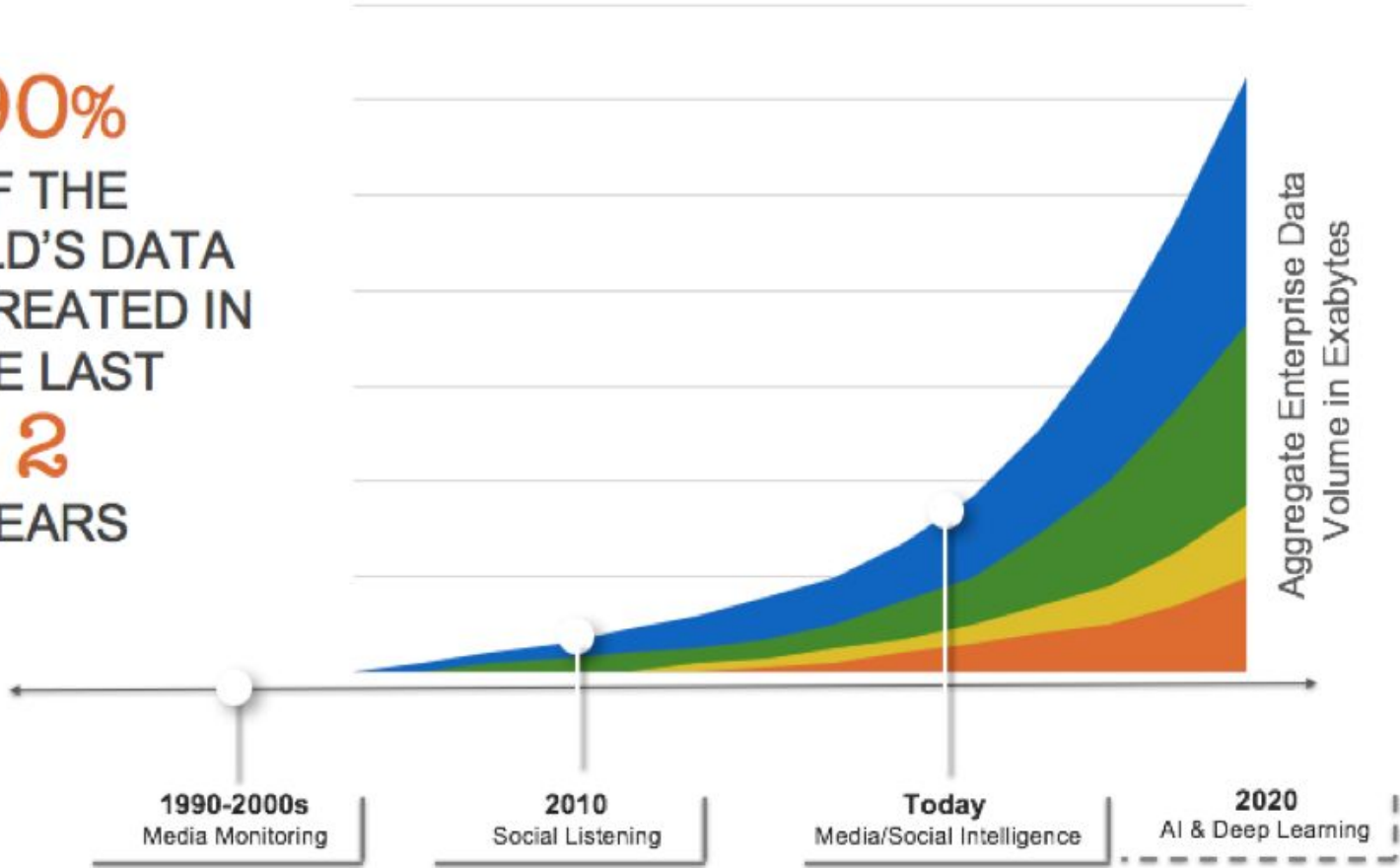
AI teams are more closely involved with the business side of things, drawing conclusions from data and producing business intelligence that can be used to inform decision-making.

Software engineering teams are more closely involved with the products and in making the products - better, faster, more user-friendly, etc.

What's the
Current Scenario ?

**Data is increasing
exponentially**

90%
OF THE
WORLD'S DATA
WAS CREATED IN
THE LAST
2
YEARS



**Focus on User Experience is
also increasing
exponentially**

INCREASED FOCUS ON USER EXPERIENCE

DIGITAL TRENDS

Companies know they need to improve user experience. It's an obvious pain point for over 97% of the top 1,500 websites. Improving user experience, though, is an involved task not easily undertaken.

The first step in improving user experience is to understand the user. Developing consumer personas is a process in and of itself that requires key insights and good resources. With well thought-out personas, though, discovering the pitfalls in a user's journey becomes much easier and the process is much smoother.

COMPANIES FOCUSING ON USER EXPERIENCE



of companies that don't conduct UX testing plan to do so in next 12 months



of companies plan to boost focus on customer experience metrics



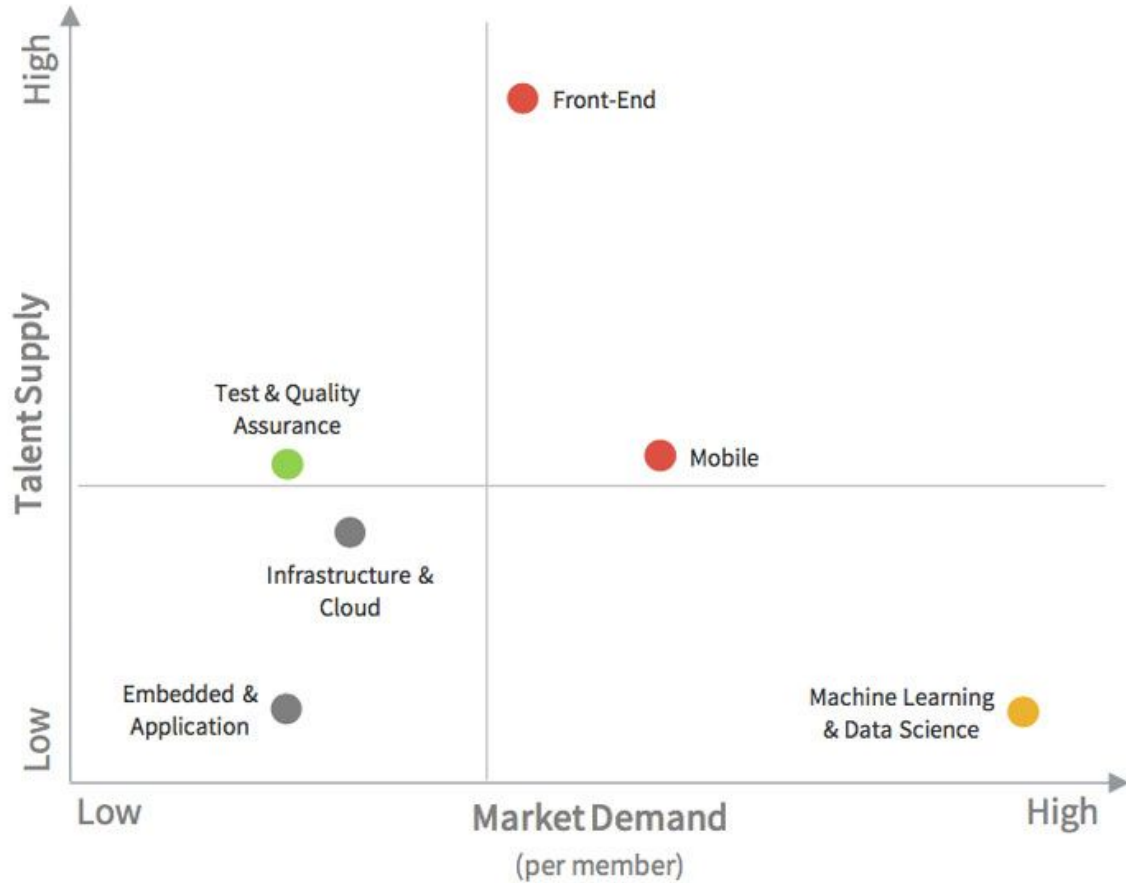
of sites fail at User Experience

What's in the Future Store for us ?

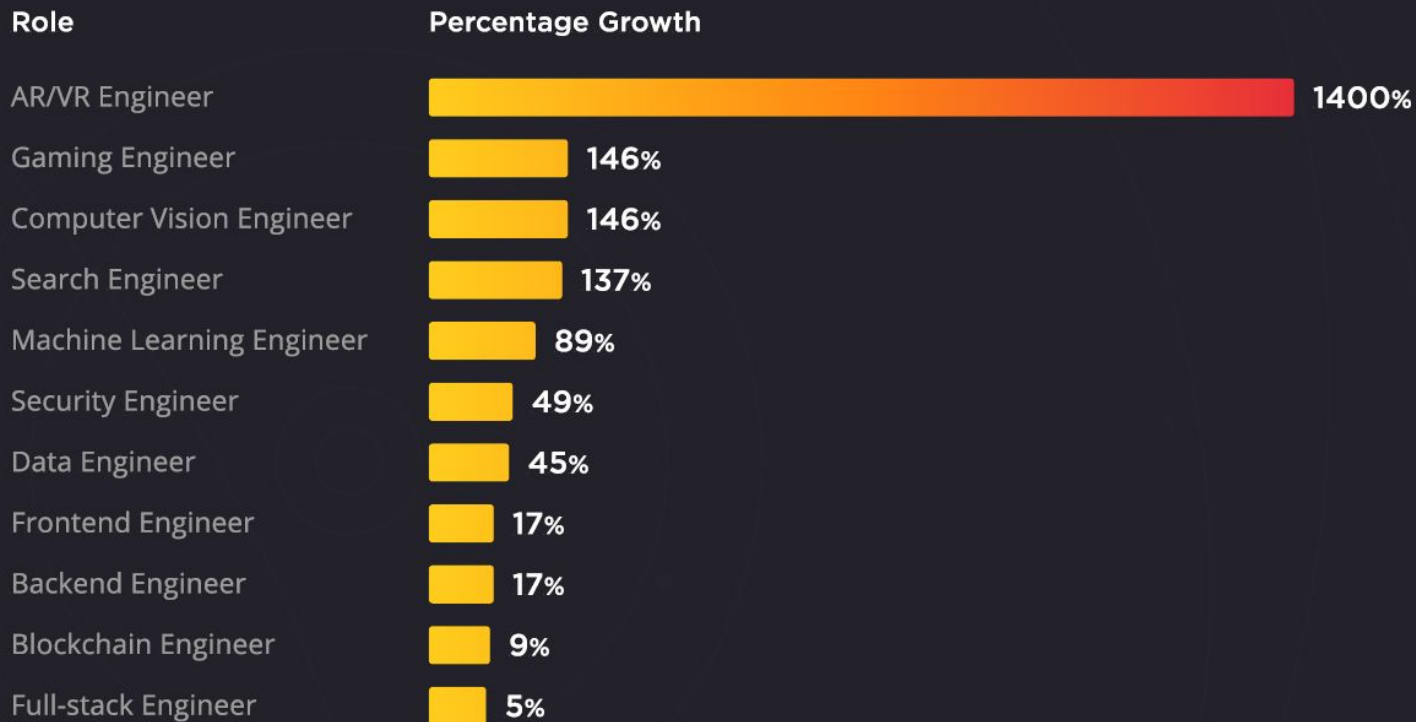
The **rapid growth of Data** is increasing the demand of Artificial Intelligence Engineers , Machine Learning Engineers, Data Scientists to analyze the data & drive better results.

The **rapid growth in demand of new features and functionalities** is driving the need to develop new & better softwares, so the requirement for software engineers have also boomed.

Supply & Demand by Specialty



2019 Demand Growth for Engineering Roles



What to do now ?

In the end, it all just boils down to your personal preference and interest

If you **like creating things and building algorithms** that have a set outcome where you know what to expect, then **software engineering is right for you.**

But if you **like the unpredictable, are in love with statistics and trends**, and have innate business acumen, then **Artificial Intelligence roles are right for you.**

It's always a good idea for -

- 1) Software Engineering teams to be slightly familiar with AI concepts to build more complex softwares.
- 2) AI teams to be slightly familiar with Software Engineering concepts to integrate the softwares well with their requirements.

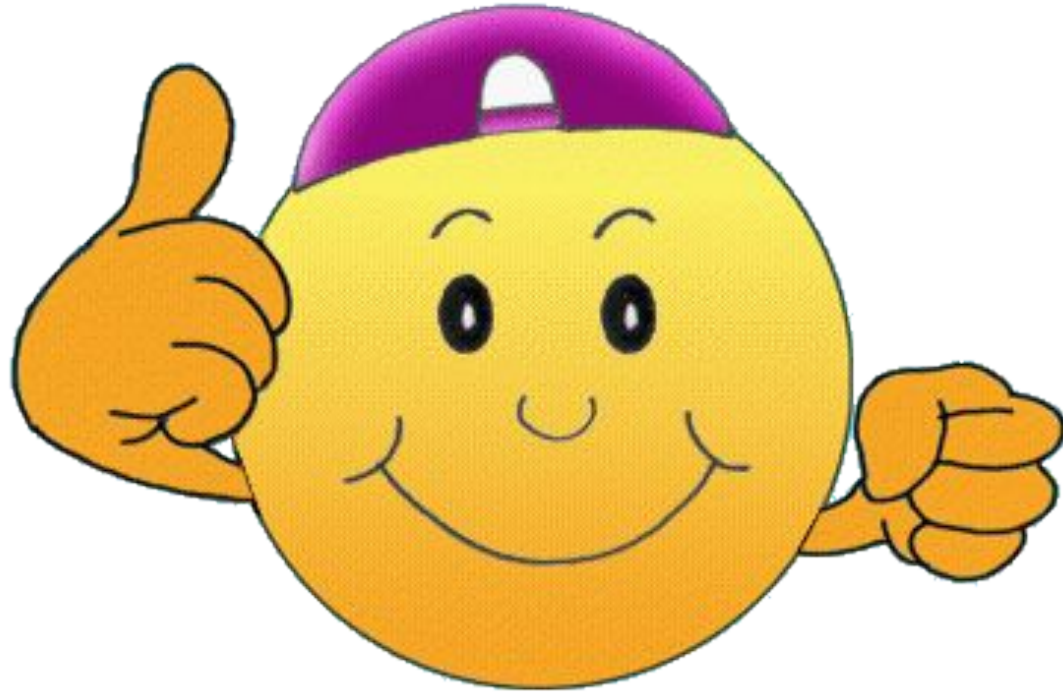
According to me

Artificial Intelligence strengthens
Software Engineering processes

Although the field of Artificial Intelligence is growing every day, its importance will never overshadow that of software engineers,
because we will always need them to build the software that AI teams
will work on.

With more data at our disposal, we will always need AI teams to analyze
the data and bring improvements in business.

GO FOR IT !



GOOD LUCK !

Let me answer your Questions now.

Finally, it's your time to speak.



Danke Schoen

Questions ? Any Feedbacks ? Did you like the talk?
Tell me about it.

If you think I can help you,
connect with me via

Email : ayon-roy@outlook.com

LinkedIn Username : <https://www.linkedin.com/in/ayon-roy/>

Website : <https://AYONROY.ML/>