

# PART A - Job Market Analysis

## A) Data collection method

### ❖ Data Source:

- Website: Naukri (<https://www.naukri.com>).
- Job Keyword: Machine Learning
- Location: India.

### □ Tools and Libraries Used:

- Selenium: Automation tool for web browser interaction.
- BeautifulSoup: Library for web scraping and parsing HTML.
- Pandas: Library for data manipulation and analysis.
- Matplotlib: Library for data visualization.
- Requests: Library for making HTTP requests.

### □ Sample Size:

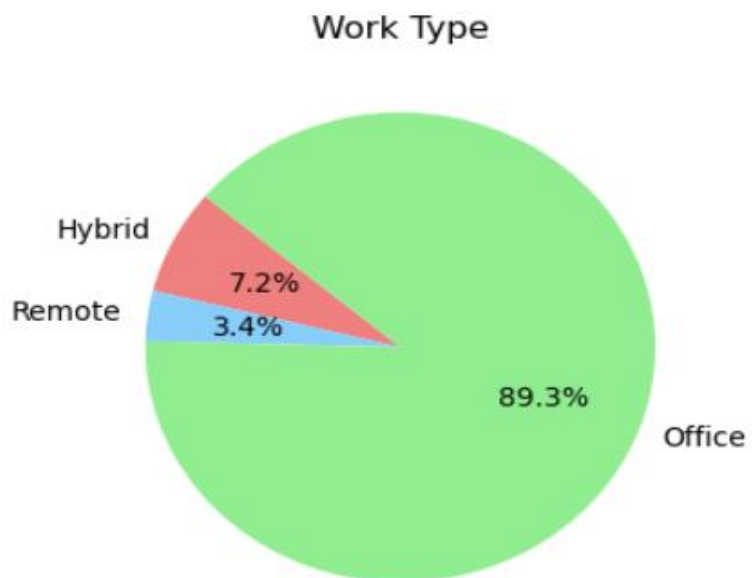
- Data is scrapped from 30 pages each page containing 20 jobs so sample size would be 600 jobs.

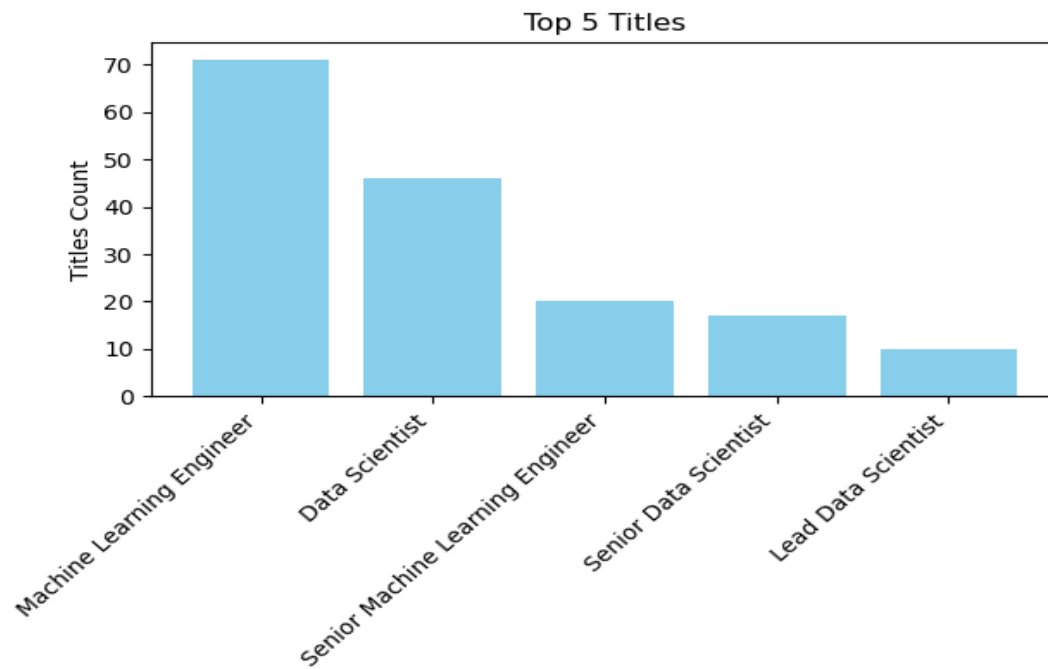
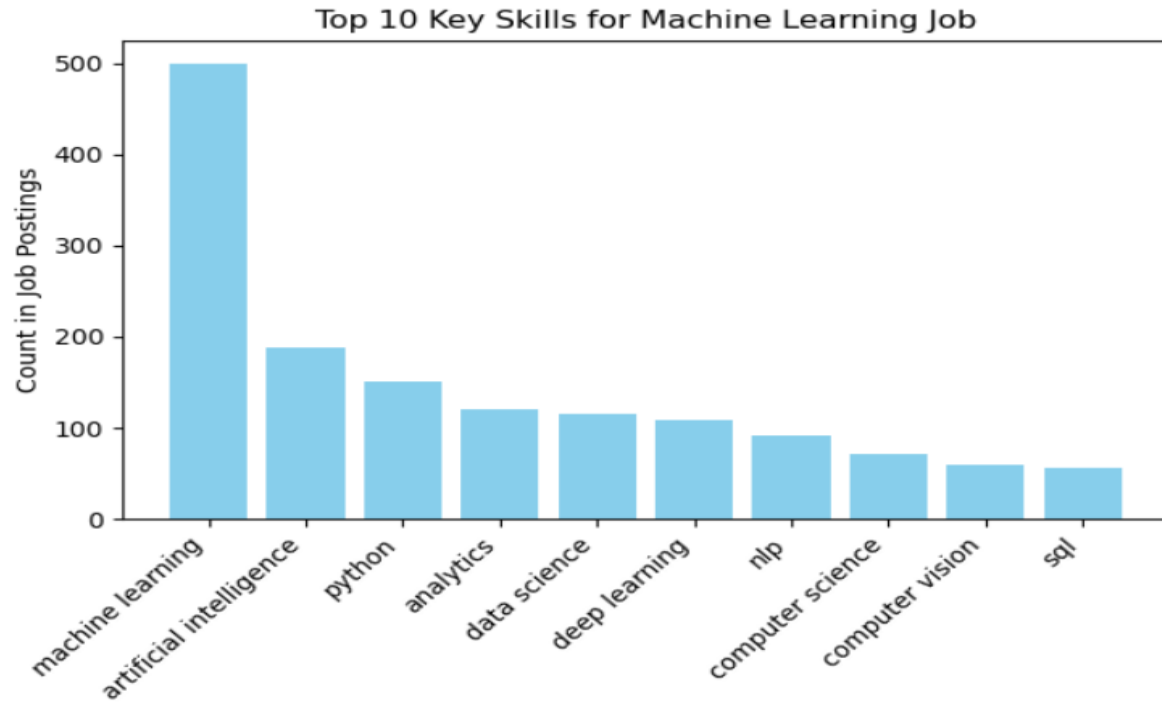
### □ Data Collection Process:

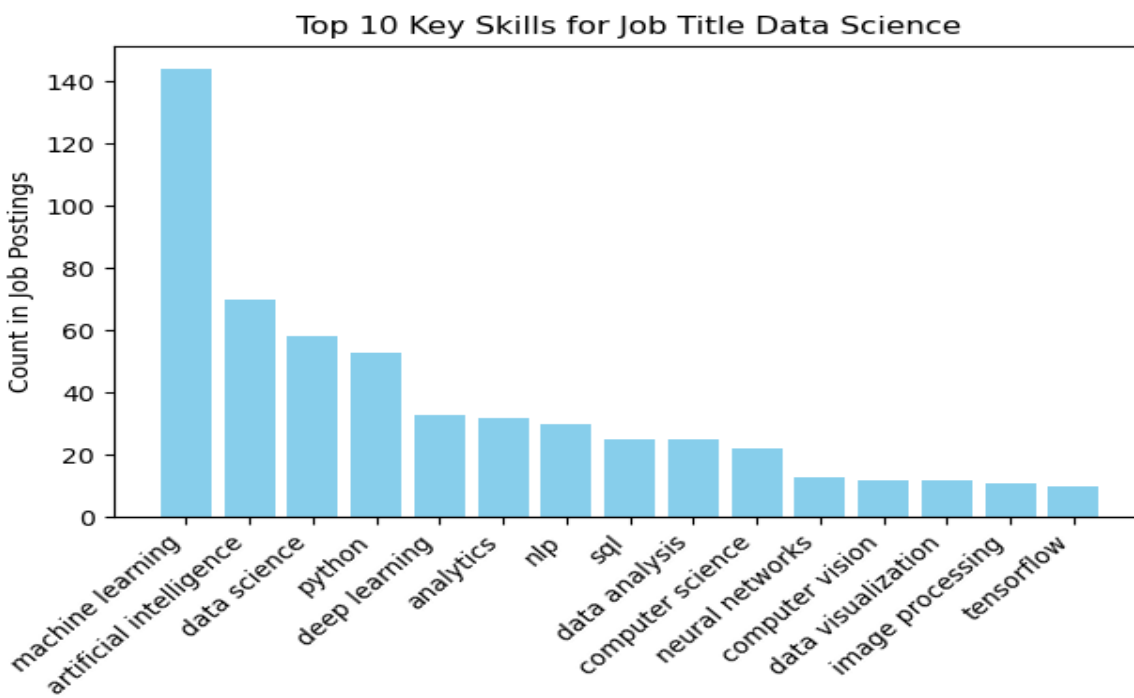
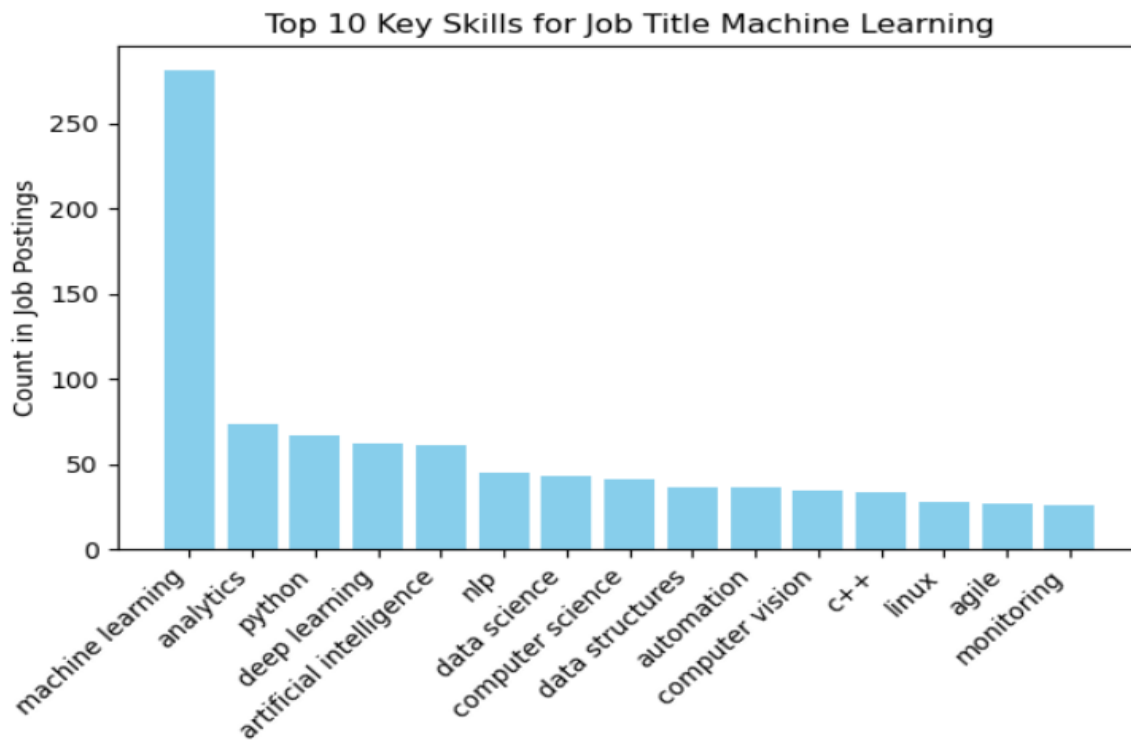
1. The code constructs URLs for jobs matching machine learning in India for 30 pages and appends it to the list.
2. A Selenium WebDriver is initiated, and for each link in the list the WebDriver navigates to the page and HTML content of each page is extracted using BeautifulSoup and 'lxml' parser and stored in list.
3. From the list Job details (title, location, experience, key skills) for each job are extracted from the HTML using find and find\_all methods and stored in a pandas DataFrame.
4. Data in DataFrame is cleaned with Pandas library making it ready to perform analysis and visualize with Matplotlib.

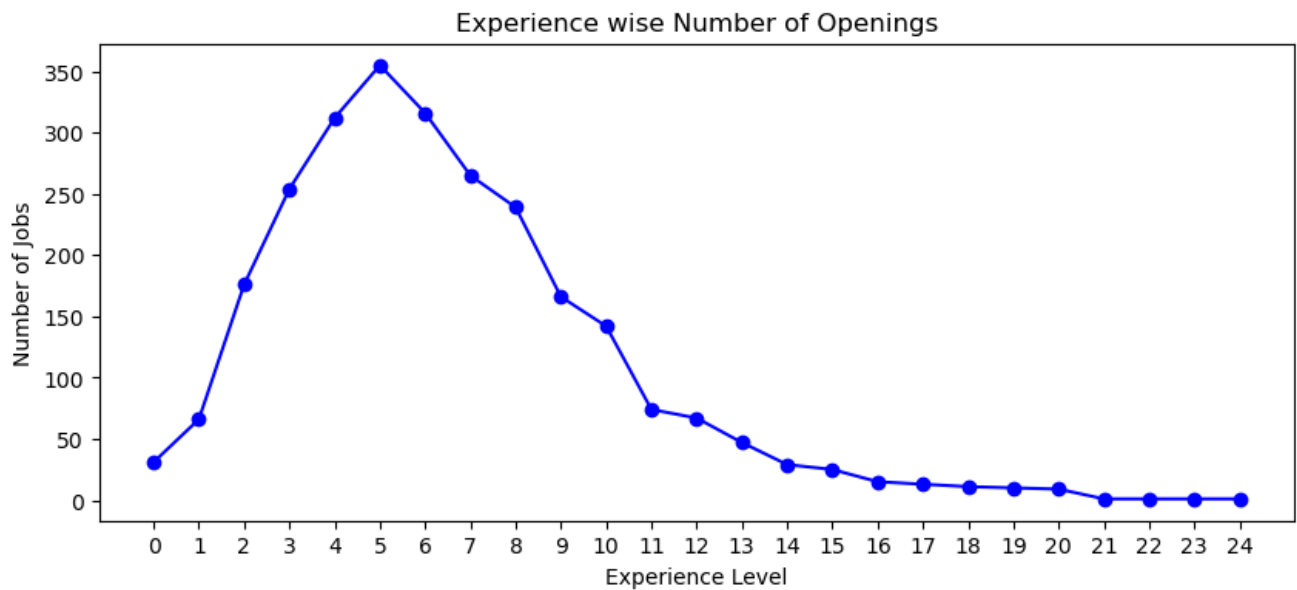
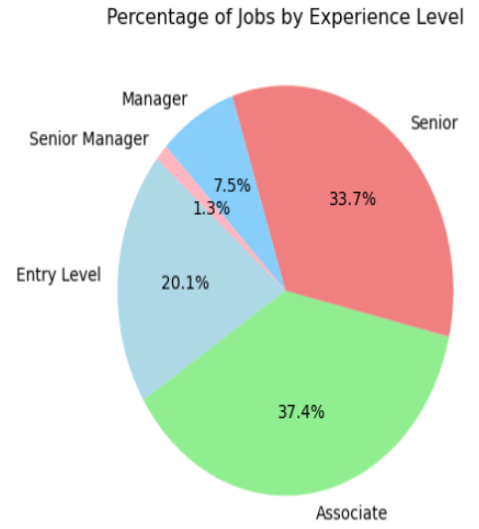
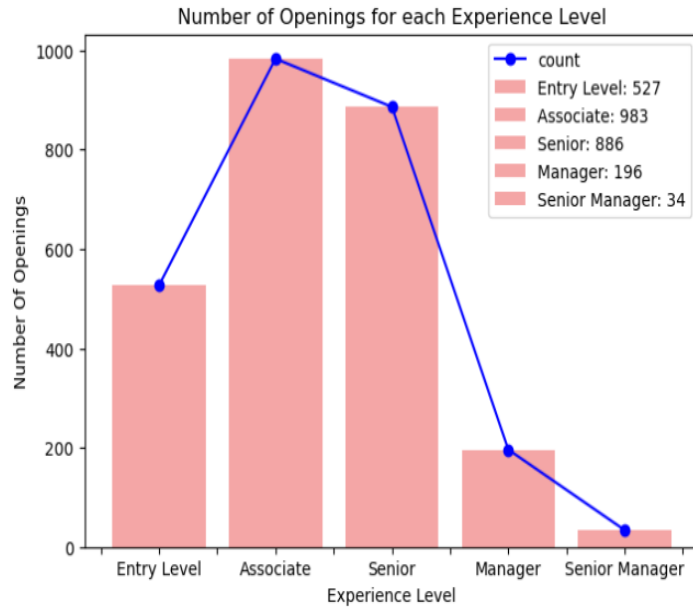
## B) Market Data Visualization

Based on analysis here are the key visualizations.









### C) My Ideal Job

**Job Title:** Machine Learning Engineer

**Relevant Skills Required for Machine Learning Engineer:** Machine Learning, Analytics, Python, Deep Learning, AI, NLP, Data Science, Computer Science, Data Structures, Automation, C++ and Computer Vision.

## DataFrame.head(15)

	Title	Location	Experience	Key Skills
0	Xoriant is hiring Datascience Engineer_Immedia...	Hybrid - Pune, Maharashtra, Bangalore Rural, K...	2-5 Yrs	[Machine Learning Algorithms, prompt engineeri...
1	Machine Learning Engineer / AI Engineer / Data...	Noida	2-4 Yrs	[NoSQL, Linux, Postgresql, Artificial Intellig...
2	Machine Learning Operations AI Platform Engineer	Bangalore/Bengaluru	4-6 Yrs	[AWS Lambda, Sagemaker, AWS, deep learning, al...
3	Machine Learning Operations AI Platform Engineer	Bangalore/Bengaluru	8-10 Yrs	[AWS Lambda, Sagemaker, AWS, deep learning, ne...
4	Machine Learning AI Platform Engineer	Bangalore/Bengaluru	6-8 Yrs	[SQL, MySQL, Machine learning, Oracle, Python,...
5	Artificial Intelligence and Machine Learning (...)	Hyderabad/Secunderabad, Bangalore/Bengaluru, M...	5-10 Yrs	[Artificial Intelligence, Big Data, Data Visua...
6	Software Developer - Machine Learning	Hybrid - Bengaluru	0-2 Yrs	[Software Development, PHP, Machine Learning, ...
7	Principal Data Scientist   Machine Learning   NLP	Indore, Bangalore/Bengaluru	5-10 Yrs	[NLP, Machine Learning, panda, Rnn, Explainable...
8	Lead Cloud Data Engineer / Artificial Intellig...	Bangalore/Bengaluru	5-7 Yrs	[Artificial Intelligence, Pyspark, Data Engine...
9	Machine Learning Engineer	Kolkata, Mumbai, New Delhi, Hyderabad/Secunder...	5-7 Yrs	[Data analysis, orchestration, GCP, Artificial...
10	Machine Learning AI Platform Engineer	Bangalore/Bengaluru	8-10 Yrs	[MySQL, Machine learning, Oracle, SQL, Python,...
11	Machine Learning Engineer	Remote	1-3 Yrs	[Machine Learning, Artificial Intelligence, Na...
12	Sr. Specialist Platform Analytics AI (Machine ...)	Hyderabad/Secunderabad	8-13 Yrs	[System architecture, Linux, data security, Ma...
13	Sr SDE - Machine Learning Engineer	Hybrid - Hyderabad/Secunderabad	4-8 Yrs	[deep learning, python, Natural Language Proce...
14	Machine Learning Engineer	Hyderabad/Secunderabad	3-4 Yrs	[Computer science, Health insurance, Artificia...