



Get a Job!

How to optimize your Job Search
Team BA1

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Motivation



We analyzed 1.3 million LinkedIn job postings to:

- Help MSBA students navigating a competitive job market
- Identify in-demand **skills**
- Tailor skills to **industry needs**
- Empower job seekers with **data-backed** strategies





The Data



What is our data?

Source

- 1.3 million LinkedIn job postings
- Scraped in the year 2024
- Kaggle author (Asaniczka)

Table

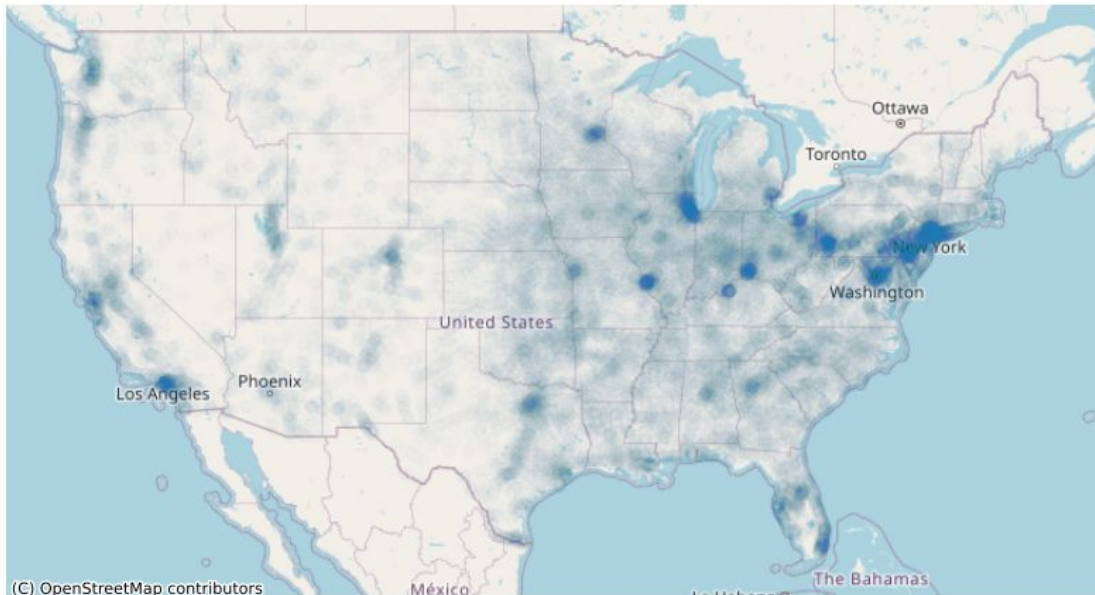
- **Job_skills:** Skills required
- **Job_summaries:** Detailed job descriptions and summaries
- **Linkedin_job_postings:** job posting details

Data Overview

- Only a small fraction are actively being worked on by recruiters.
- Most of them are onsite job types.
- Much more postings for mid-senior job levels than associate levels

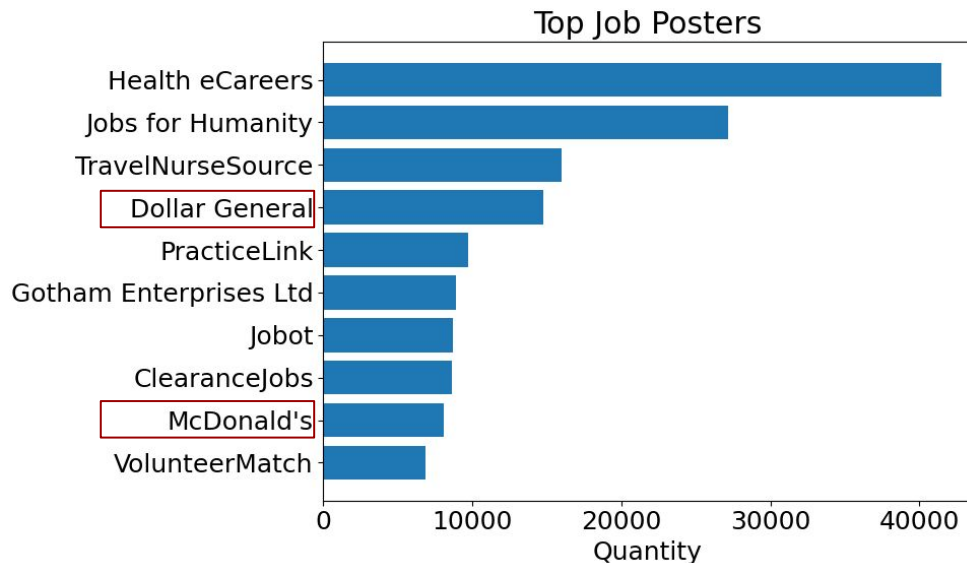
Where are the job being posted across the United States?

- **East Coast:** Concentrated in big cities.
 - Washington, New York and Chicago.
- **Central US:** Not much job posting
- **West Coast:** Concentrated in Southern California.
 - Los Angeles, San Francisco, Bay area



Most job supply in East Coast and Bay Area

Which companies have the most jobs listed?



8 out of the top 10
job posters are
agencies/intermediaries!

Apply from company website in order to get closer to the company for better recruitment experience



Deep Dive into the Data Job Market

Identifying Data-related Roles and Feature Engineering

Filtering out non-data roles



Filter out data relevant roles by:

- Job Categories
- Job Seniority

Extracting Salaries



Extract Hourly wages from summaries

Min: USD 7.5

Extracting Industry



Tokenized summaries and map with industry lists:

- ICB_Industry
- ICB_Sector
- ICB_Token

Extracting Skills and Responsibilities



NER models to extract features:

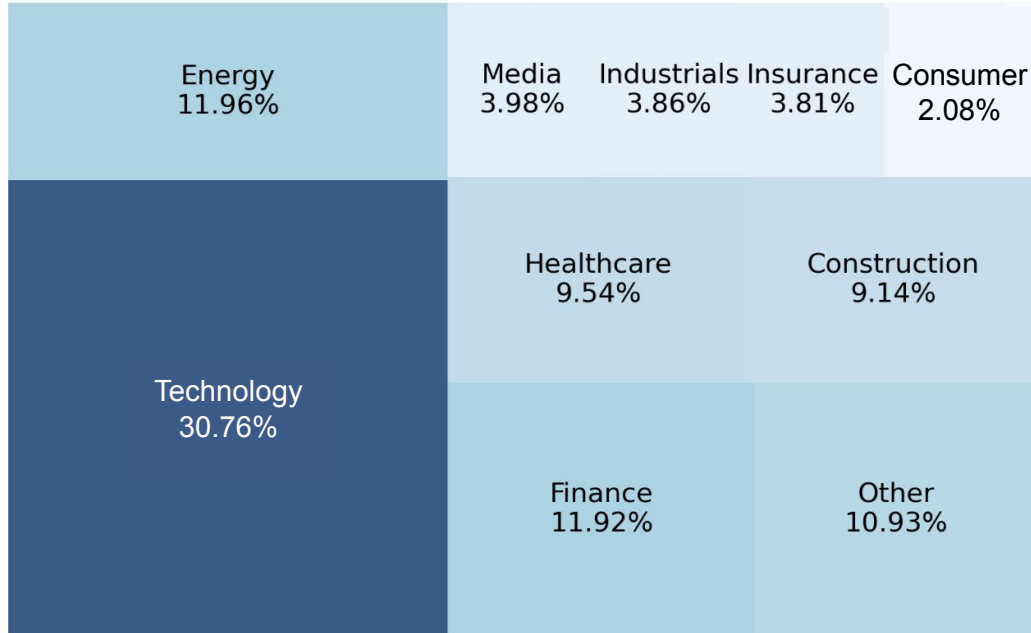
- Tasks
- Tools
- Languages



Industries



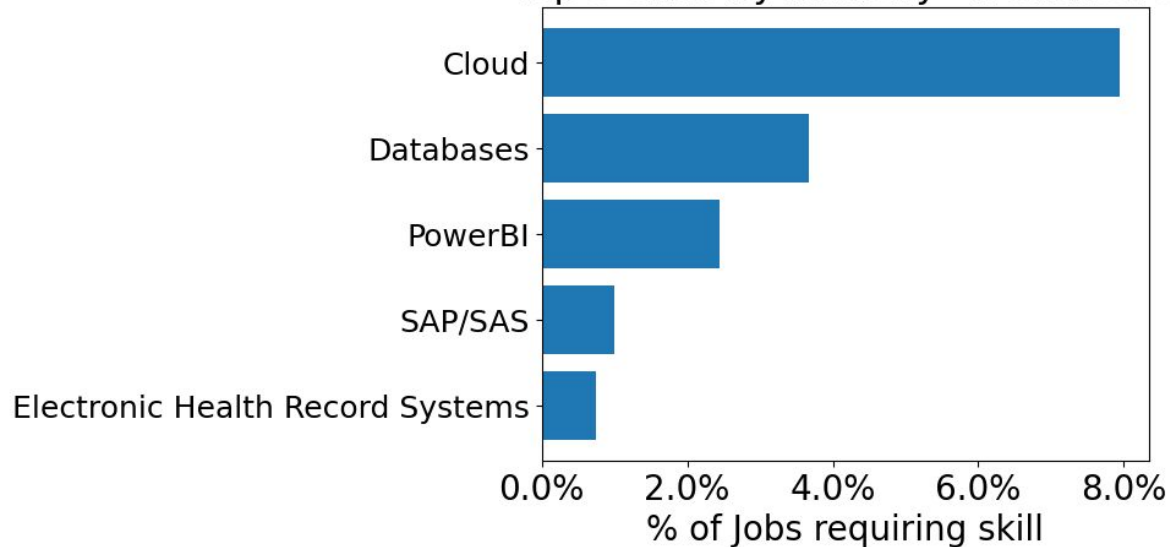
% of Data-related Job Postings by Industry



- Technology 30.76%
 - a promising industry
- Energy (11.96%) & Finance (11.9%), Healthcare (9.54%)
 - Significant data analytics application
- Sectors with small proportion indicate growing opportunities

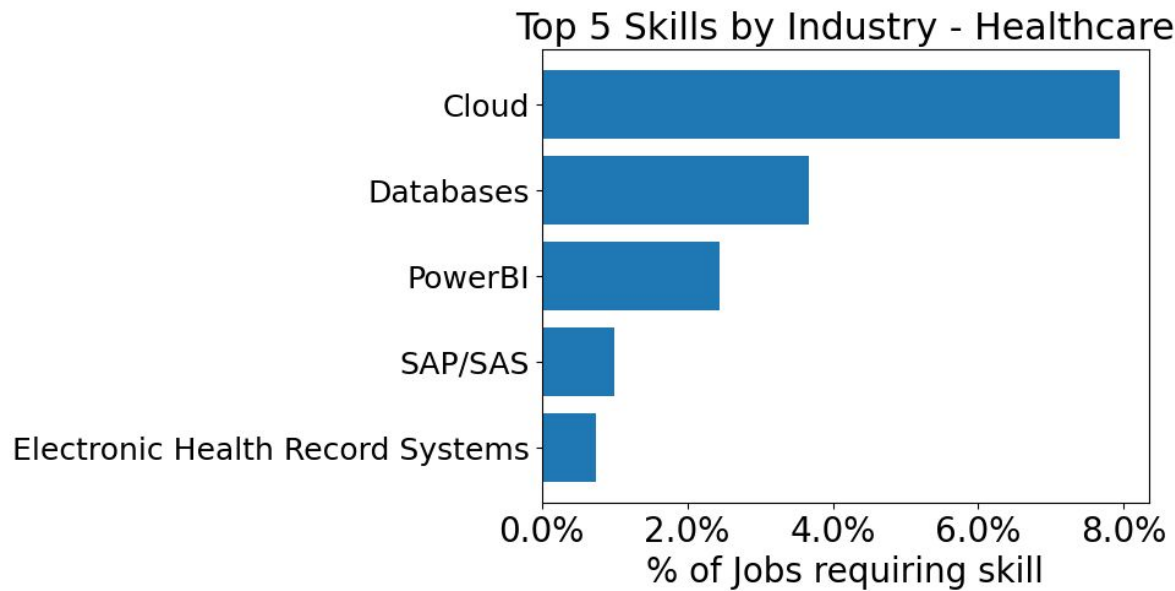
Most Frequently Mentioned Tools by Industry

Top 5 Skills by Industry - Healthcare



- Heavy emphasis on programming languages & enterprise IT infrastructure tools, ex. Oracle

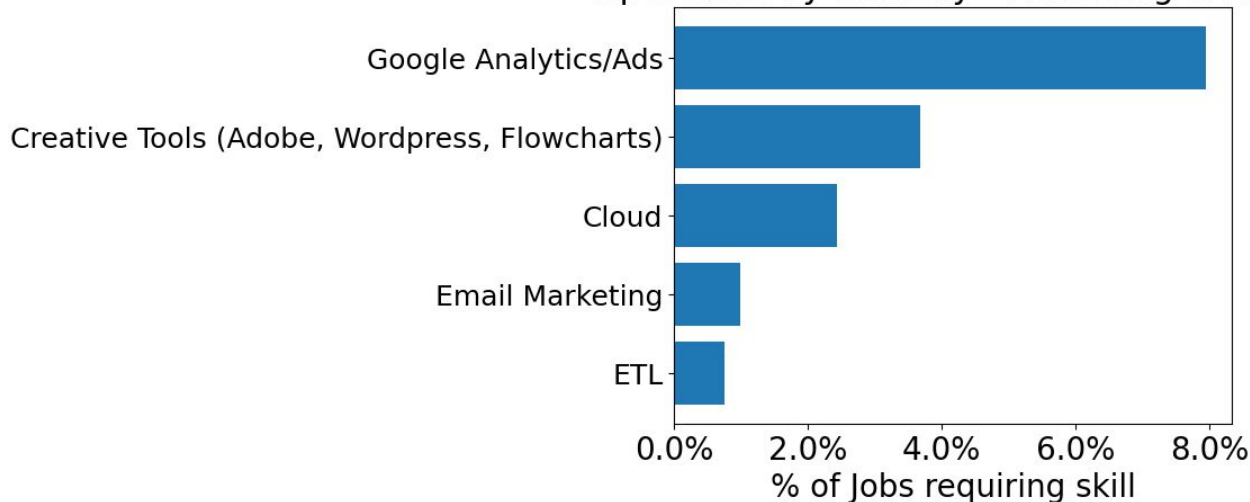
Most Frequently Mentioned Tools by Industry



- Highly focused on database and cloud tools
 - For managing patient health records safely & privately
- Data analysis tools: SAP/SAS, PowerBI

Most Frequently Mentioned Tools by Industry

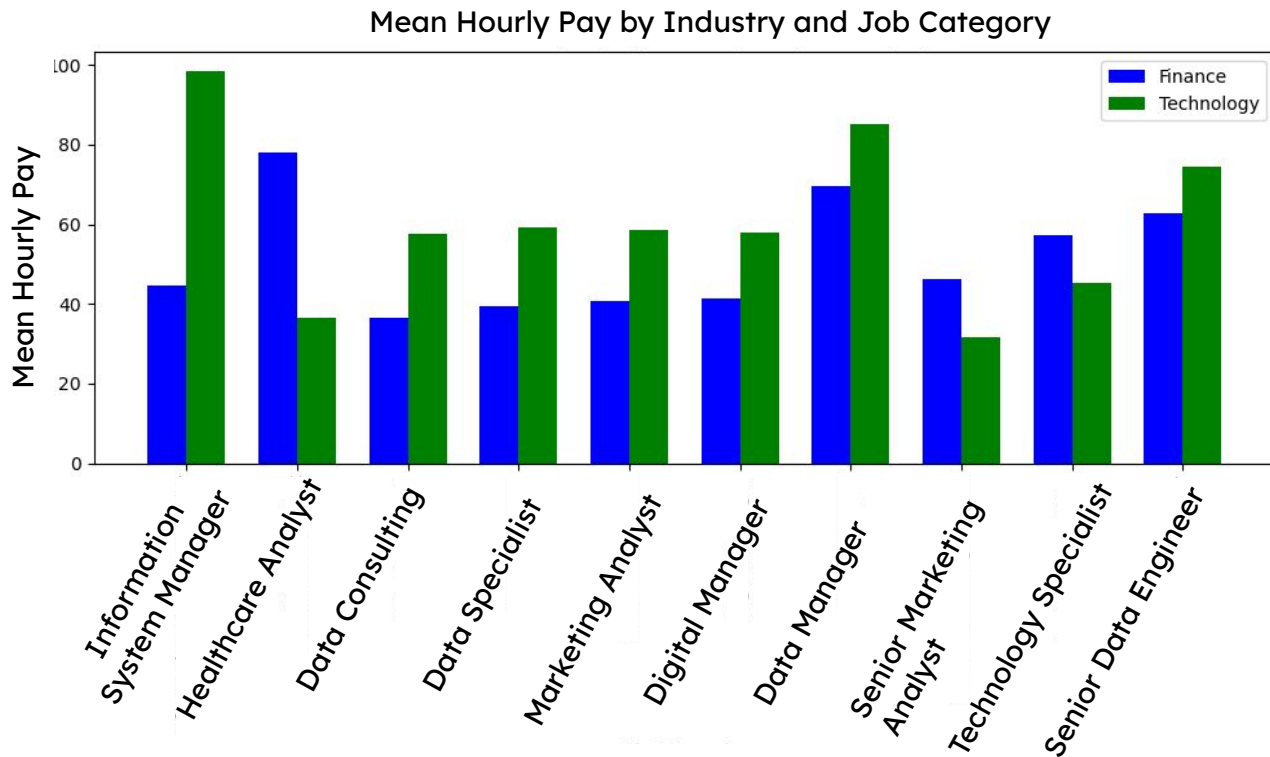
Top 5 Skills by Industry - Marketing & Media



- Adtech Tools

- Google Analytics
- Creative development tools, ex. Adobe
- Email Marketing Platforms

Top Industries in Pay Difference



- Same job categories but significant discrepancies between industries
- Technology
 - Specialized & managerial roles => higher pay
- Finance
 - Healthcare Analyst and Data Manager => higher pay



Skills and Tools





Top Mentioned Skills



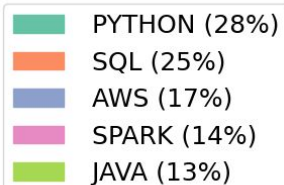
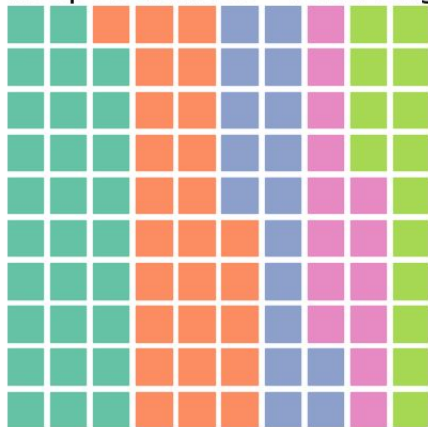
Analytics Pipeline

Raw
Data

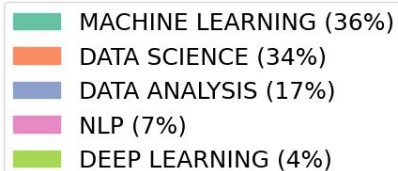
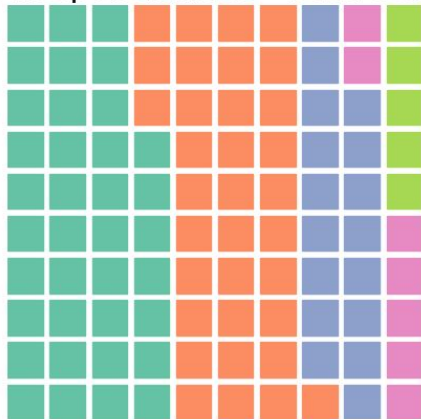
Modeling

Insights

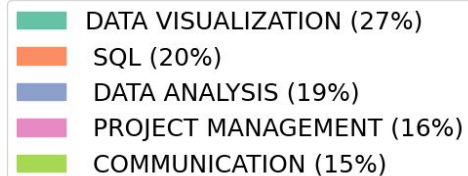
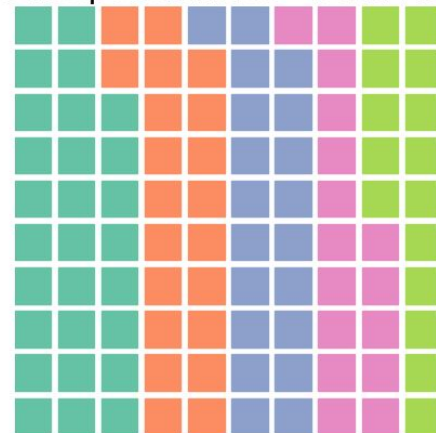
Top 5 Responsibilities - Data Engineer



Top 5 Responsibilities - Data Scientist

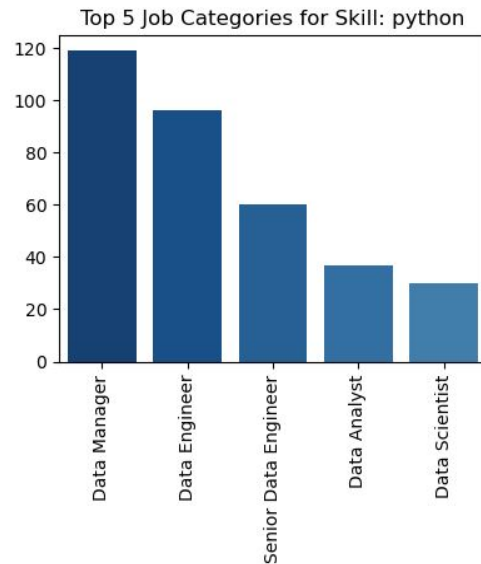
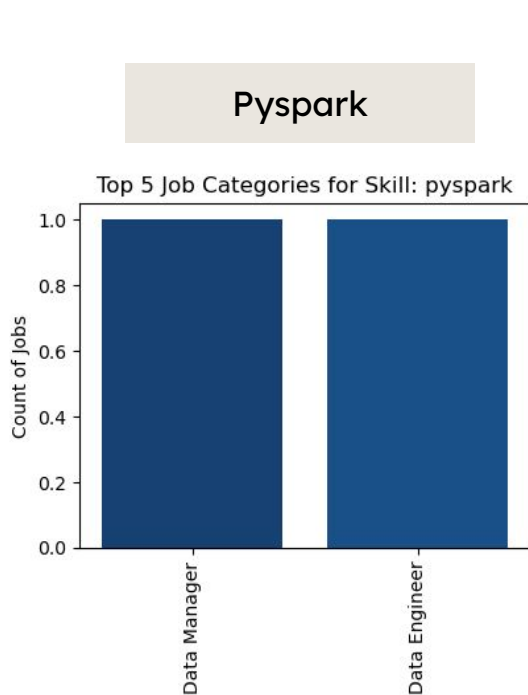


Top 5 Responsibilities - Data Analyst



What specific job categories demand the skills we've acquired?

- Advance knowledge in coding language
 - Data Manager
 - Data Engineer

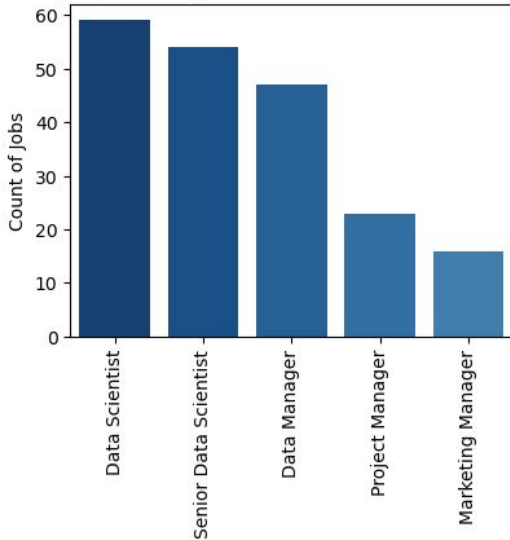


Python

What specific job categories demand the skills we've acquired?

- Advance knowledge in machine learning
 - Data Manager
 - Data Scientist

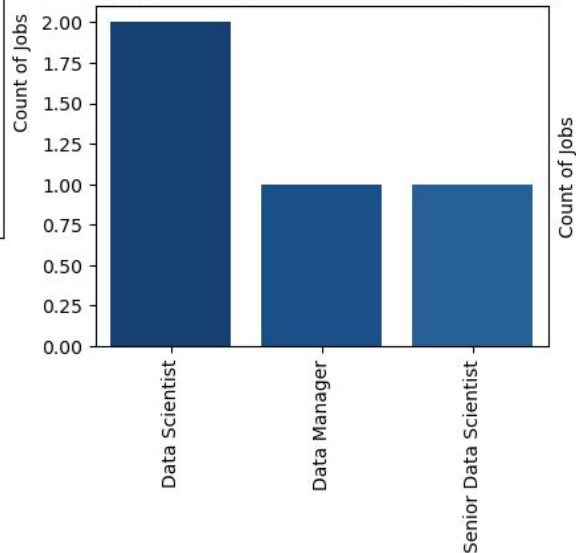
Top 5 Job Categories for Skill: machine learning



Machine learning

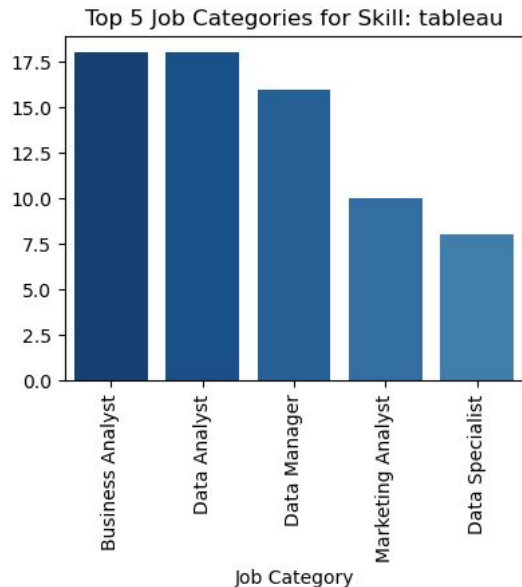
Deep Learning

Top 5 Job Categories for Skill: deep learning

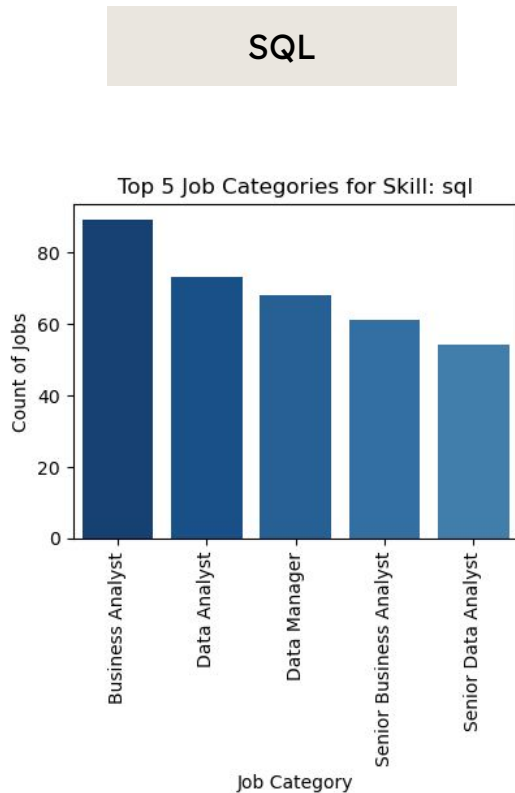


Technical roles requires more advanced technical skills

What specific job categories demand the skills we've acquired?



Tableau

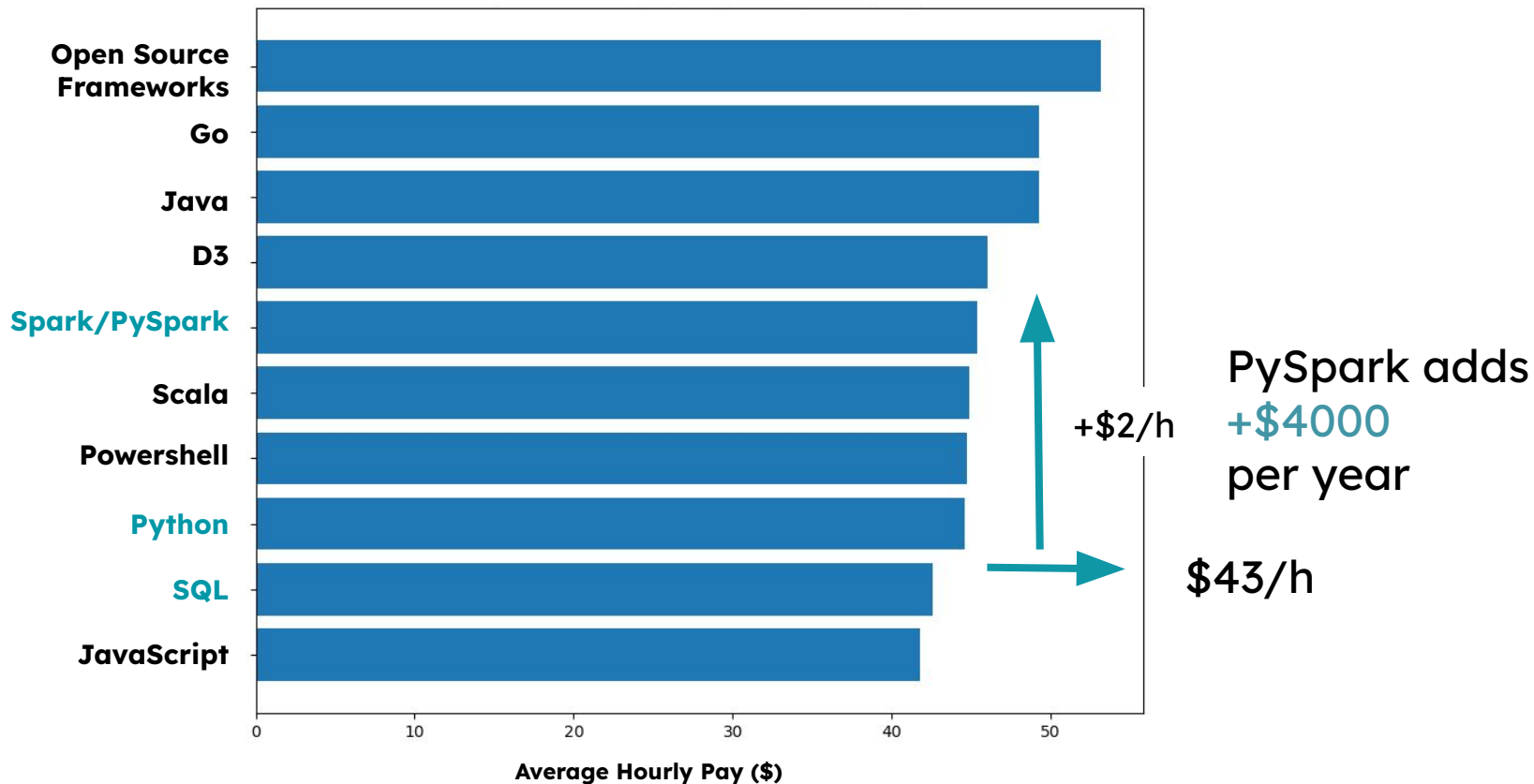


- Explore the relationship within the data
- Performing data visualisation
- Needed to be acquired by **ANALYST**
- Less technical roles
- More emphasis on understanding the data.

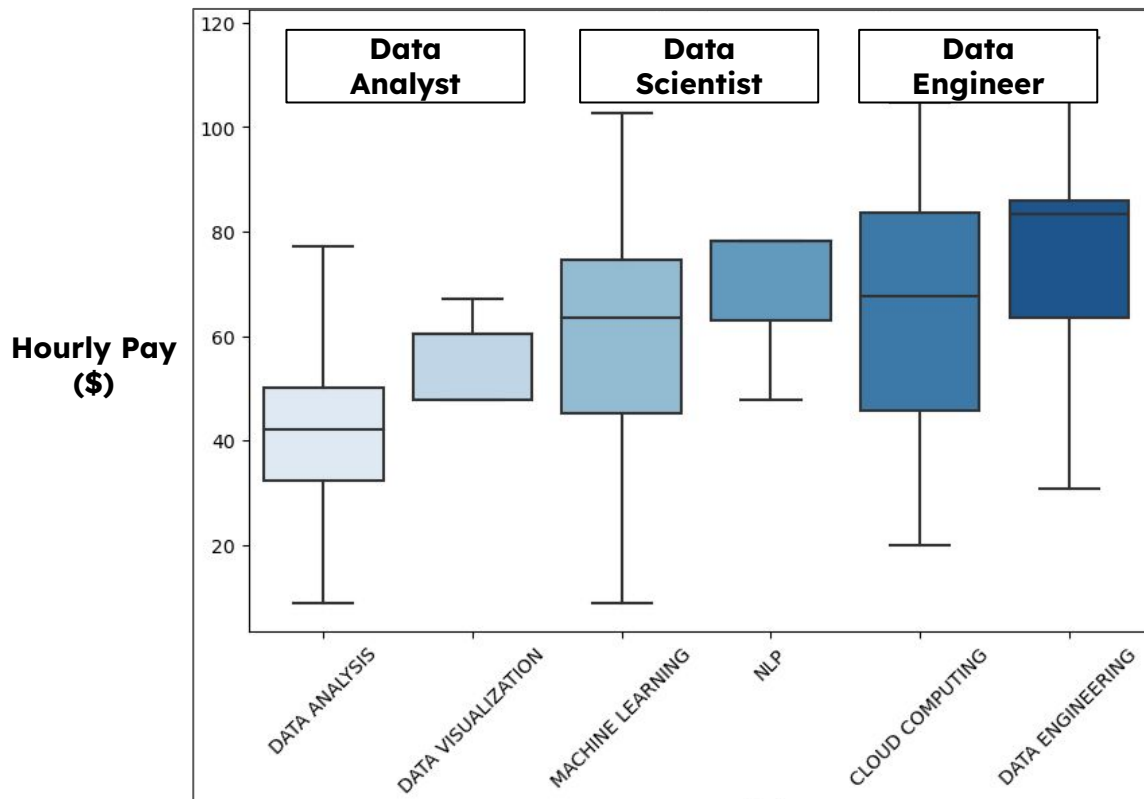


Salaries & Pay

Top 10 Languages & Tools by Hourly Pay



Data-related Tasks by Average Pay



Data Engineering
related tasks have the
highest median pay
(\$60-\$80)

Machine Learning pay
rates are the most
varied
(\$10-\$100)



Top tips to land a Job

For Data Analysts

- Master **Data Visualization**
- **Tableau** is king
- Develop **Communication & Management** skills



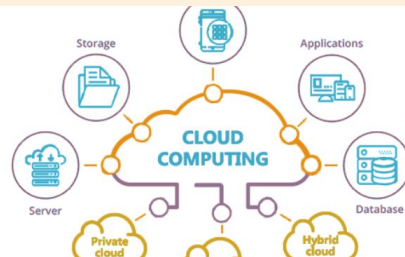
For Data Scientists

- Master the **Modeling Pipeline**
- Focus on one or two **AI/ML sub-domain**
 - NLP
 - Deep Learning



For Data Engineers

- Master the Big 3 - **Python + SQL + Spark**
- Learn how to deploy on the **Cloud**
 - AWS
 - Azure
 - Snowflake





Challenges





Challenges



**Cluster Management
(Auto Scaling & Checkpoints)**

Filtering Data-specific roles

Cleaning Text Data



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