

# **Job market analysis with Power BI**

**CASE STUDY: ANALYZING JOB MARKET DATA IN POWER BI**



# What is a case study?

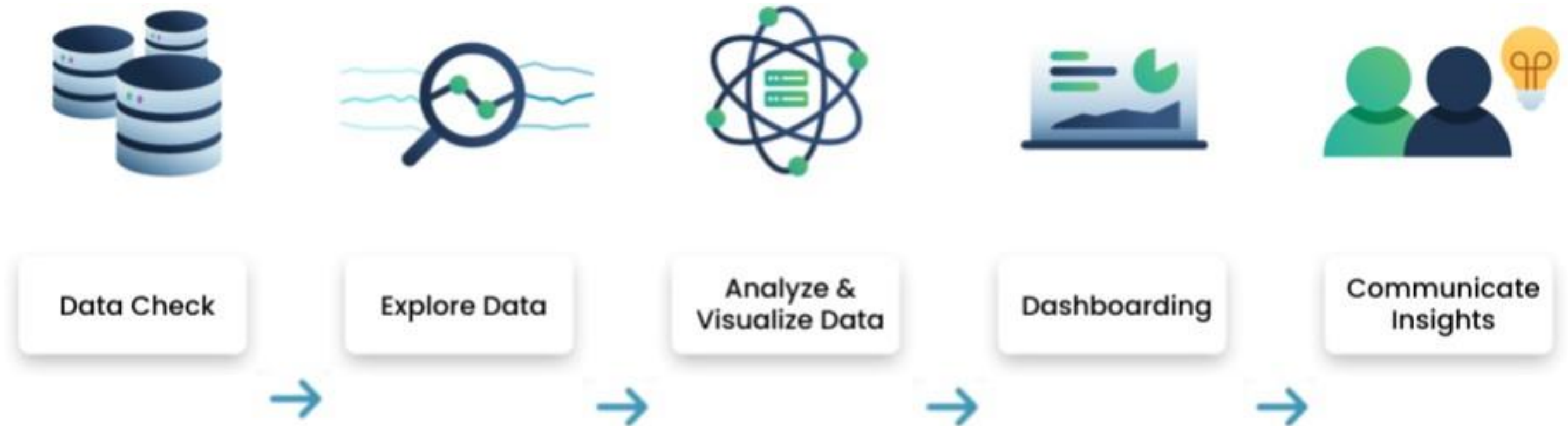
- Apply Power BI skills
- Combine previously learned concepts
- Solve an example real-world problem

## Prerequisite courses:

- Introduction to Power BI
- Data Visualization in Power BI
- Introduction to Calculations with DAX in Power BI



# Data analytics pipeline with Power BI



# Data analytics pipeline - checking and exploring data



- Perform an integrity check of the dataset
- Exploratory data analysis (EDA)
- Apply business questions to start investigating the problem

# Data analytics pipeline - analyze & visualize



- Build overview tables and visualizations
- Perform more in-depth analytics

# Data analytics pipeline - dashboarding



- Combine visualizations into a few dashboards
- Design with the problem and audience in mind

# Problem to solve

Investigate market trends for data science roles

- **The context:** An employee recruiting firm, *DataSearch*, needs to uncover job trends
- **The task:** Discover trends in jobs and skills within the data science industry
- **The dataset:** A fictitious collection of key details from job postings





# Market trends to watch

*The job market is a classic supply and demand problem.*

- **Quantity:** The number of job postings
- **Price:** Corresponds to salary
- **Supply:** Those looking for employment
- **Demand:** The amount of employment opportunities





# The data

## Key characteristics

- Key details from job postings from 2017 to 2021 for jobs in the data science industry
- Each row correlates to a specific job posting in time
- One table containing 19 columns



# The data

## Qualitative Columns

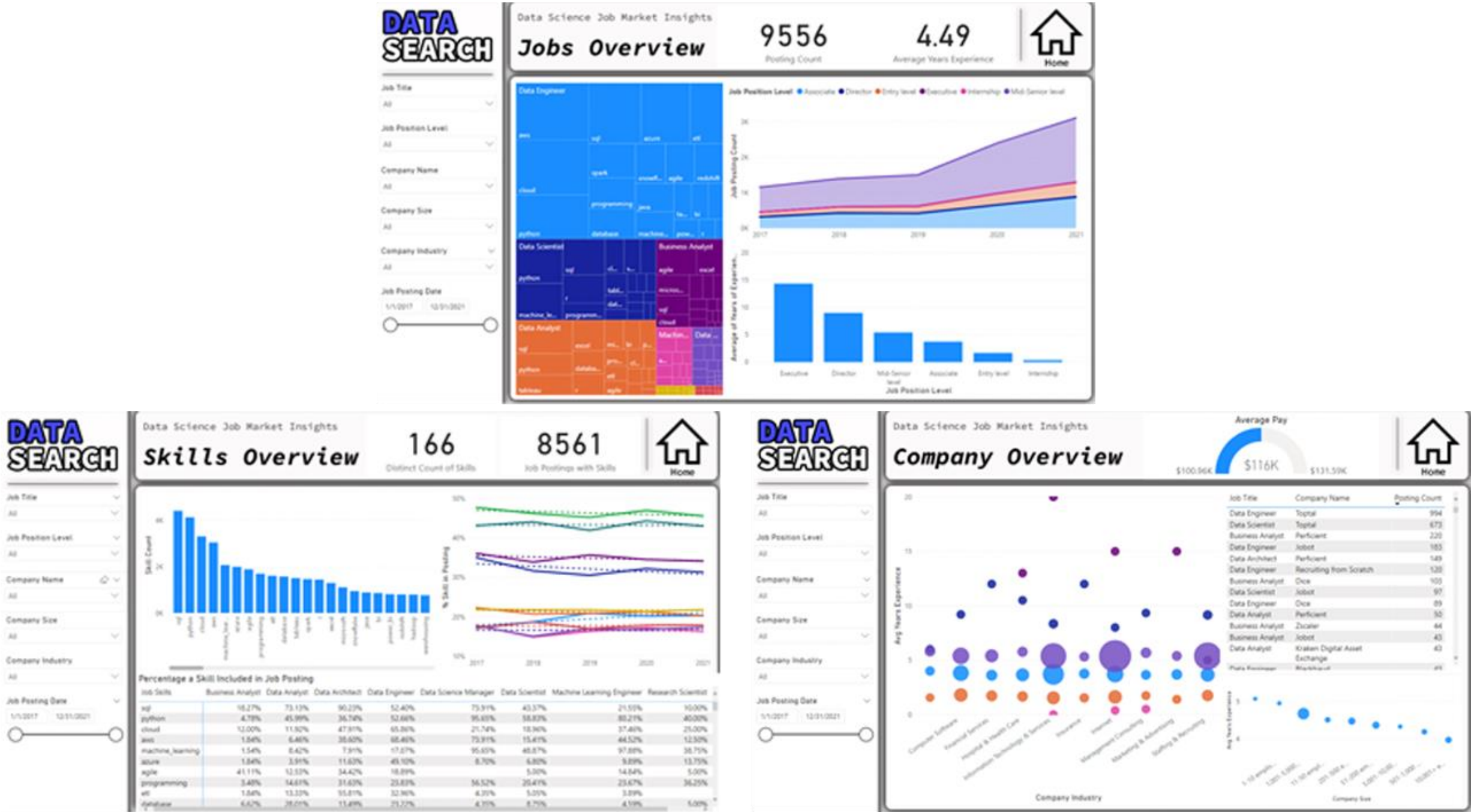
Column name	Description
Job Posting Id	The unique ID that identifies a job
Job Title	Data Analyst, Data Scientist, ...
Job Position Type	Full-time, Contract
Job Position Level	Internship, Entry-level, Executive, ...
Job Skills	['powerbi, excel, sql'], ['python', 'databases'], ...
...	...

# The data

## Quantitative Columns

Column name	Description
Job Posting Date	The date of the job posting
Years of Experience	Number of years minimum experience
Minimum Pay	Minimum expected salary
Maximum Pay	Maximum expected salary
Number of Applicants	Number of applicants in first 24 hours of job posting
...	...

# Final deliverable



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# Market insight analysis

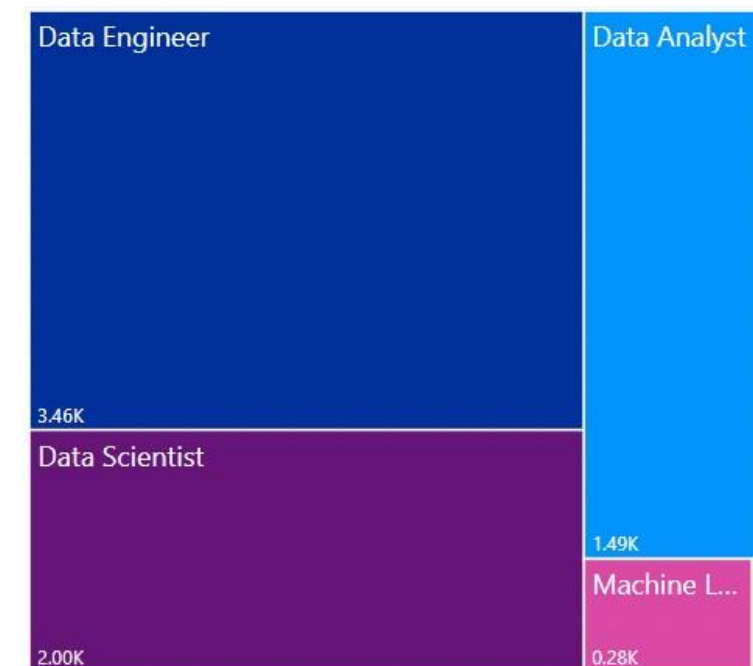
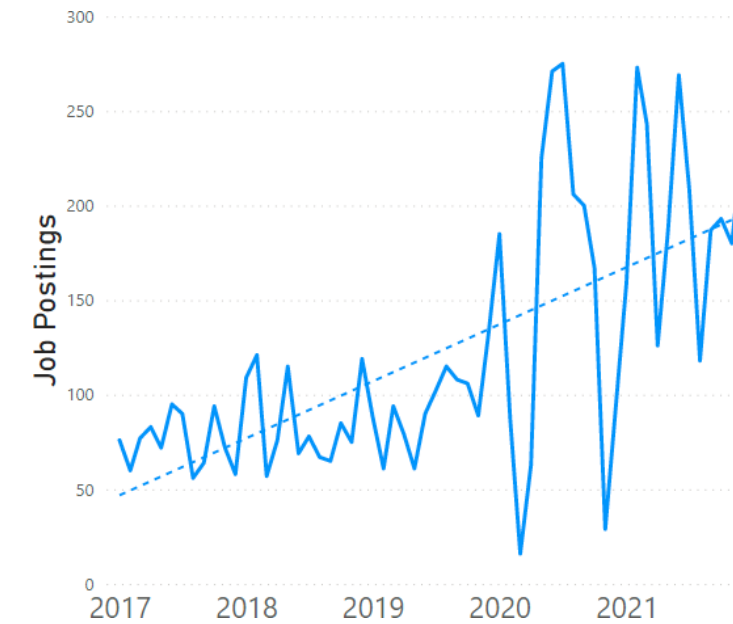
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# Exploratory data analysis findings

## Key Insights:

1. Job postings are increasing in number.
2. Data Engineers, Data Scientists, and Analysts are in demand!
3. Tech industries need data science roles the most.
4. Salaries are trending upward as expected.



# Diving deeper into the dataset

Column name	Description
Job Title	Data Analyst, Data Scientist, ...
Job Skills	['powerbi, excel, sql'], ['python', 'databases'], ...
Years of Experience	Number of years minimum experience
Company Name	Amazon, Meta, Intel, ...
Company Industry	Healthcare, Internet, Software, ...

**Investigate the following:**

- Correlation between skills and job title
- Top industries and companies
- Potential recommendations



# Goals of this data pipeline phase



Identify the following:

- Key findings to focus
- Visualizations to share
- Communication style

# Let's practice!

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