**AI-Powered Resume Dataset Analysis**

**1. Dataset**

Dataset Source:

The dataset used for this analysis was obtained from Kaggle. The original dataset can be accessed at the following link: [AI-Powered Resume Screening Dataset 2025](https://www.kaggle.com/datasets/mdtalhask/ai-powered-resume-screening-dataset-2025/data).

Dataset Description:

This dataset contains information related to AI-powered resume screening. It includes data on job applicants, such as their skills, years of experience, education level, certifications, applied job roles, recruiter decisions, salary expectations, project count, and AI evaluation scores. The purpose of this dataset is to analyze hiring trends and determine which factors play a key role in the recruitment process.

Why This Dataset Was Chosen:

This dataset was selected because it provides an opportunity to explore hiring trends and the effectiveness of AI-based resume screening. It allows us to assess how factors such as experience, skills, education, and certifications influence hiring decisions and salary expectations.

**2. Data Dictionary**

Resume\_ID - Numerical - Unique identifier for each resume.  
Name - Text - Candidate's full name.  
Skills - Text - List of skills possessed by the candidate.  
Experience (Years) - Numerical - Number of years of professional experience.  
Education - Categorical - Candidate’s education level (B.Sc, M.Sc, MBA, etc.).  
Certifications - Text - Certifications acquired by the candidate.  
Job Role - Categorical - The job role applied for.  
Recruiter Decision - Categorical - Hiring decision (Hire/Reject).  
Salary Expectation ($) - Numerical - Expected salary in USD.  
Projects Count - Numerical - Number of projects completed.  
AI Score (0-100) - Numerical - AI evaluation score based on resume analysis.

**3. Initial Thoughts**

Expected Findings:

* Candidates with more experience and certifications were expected to have higher AI Scores.
* Higher education levels were anticipated to correlate with increased salary expectations and AI Scores.
* Hiring decisions were likely to favor candidates with AI Scores above a certain threshold.
* Job roles related to AI and data science were expected to have higher salary expectations compared to other positions.

Challenges Foreseen:

* Some data inconsistencies or missing values could impact the analysis.
* Assessing the relevance of specific skills to hiring decisions might be complex.
* Multiple candidates having identical AI Scores could make ranking them difficult.

Areas of Interest:

* To what extent do certifications impact hiring decisions?
* Which job roles tend to have the highest AI Scores?
* How does experience influence salary expectations?

**4. Data Cleaning**

Steps Taken:

* Checked for Duplicates: No duplicate Resume\_IDs were found.
* Handled Missing Data: No major missing values were detected.
* Formatted Data: Salary values were standardized for consistency.
* Filtered Data: Focused on AI-related job roles for a more relevant analysis.

**5. Research Questions**

1. What factors influence AI Score?
2. Which skills are most common among hired candidates?
3. How do salary expectations differ across job roles?
4. Does a higher education level lead to better AI Scores and higher chances of getting hired?
5. Are experienced candidates more likely to be hired?
6. Do candidates with more projects have higher AI Scores and salary expectations?
7. Which job role contains the most candidates who had a perfect AI Score?

6. Results

Q1: What factors influence the AI Score?

* The analysis revealed that experience and project count had the strongest correlation with AI Scores.
* A graph with blue lines and numbers

  AI-generated content may be incorrect.
* Candidates with more than five projects and over seven years of experience had AI Scores averaging above 90.

Q2: Which skills are most common among hired candidates?

* Using Text Functions, It was found that the most common skills among hired candidates were Python and SQL.
* A table with text on it

  AI-generated content may be incorrect.

Q3: How do salary expectations vary across different job roles?

* A Pivot Table and Chart showed that Data Scientists had the highest salary expectations, with an average of approximately $82,000.
* A screenshot of a graph

  AI-generated content may be incorrect.

Q4: Does higher education lead to better AI Scores and hiring chances?

* Pivot Chart analysis indicated that B.Sc and B.Tech holders had the highest average AI Scores.
* A graph of a number of people

  AI-generated content may be incorrect.
* A screenshot of a computer

  AI-generated content may be incorrect.
* However, B.Sc. and M.Sc. graduates had a higher hiring rate than PhD holders.
* A screenshot of a graph

  AI-generated content may be incorrect.

Q5: Are more experienced candidates more likely to be hired?

* A COUNTIFS function demonstrated that 637 out of 1000 candidates scored above an 80 on AI

Q6: Do candidates with more projects have higher AI Scores and salary expectations?

* Using a Pivot Table and Chart, it was determined that candidates with five or more years of experience consistently had AI Scores above 85.
* Candidates with **more than five projects** also had **10% higher AI Score** than those with fewer projects.
* A graph with a line

  AI-generated content may be incorrect.
* A screenshot of a graph

  AI-generated content may be incorrect.

Q7: Which job role contains the most candidates who had a perfect AI Score?

* Using an INDEX\_MATCH function, it was found that AI Researcher was the job role that contained the most candidates who had a perfect AI Score.

**7. Conclusion**

Key Takeaways:

* Experience and project count play a significant role in determining AI Scores.
* Certifications positively impact hiring decisions, though education level alone is not a strong predictor.
* Python, and SQL were the most common skills among hired candidates.
* AI Researchers and Data Scientists had the highest salary expectations.

Comparison to Initial Thoughts:

* Confirmed: AI Scores were strongly influenced by experience and project count.
* Unexpected: PhD holders were not necessarily more likely to be hired than B.Sc. or M.Sc. graduates.
* New Findings: Certifications had a greater impact on hiring decisions than initially expected.

Challenges Faced:

* Multiple candidates having identical AI Scores made ranking them difficult.
* Some job roles had fewer data points, limiting the accuracy of salary comparisons.

Potential Improvements:

* Further analysis could be conducted to assess skill relevance using NLP techniques.
* Examining hiring trends over time would provide additional insights.

**8. References**

* Dataset Source: [Kaggle - AI-Powered Resume Screening Dataset 2025](https://www.kaggle.com/datasets/mdtalhask/ai-powered-resume-screening-dataset-2025/data)
* Excel Functions Used: VLOOKUP, HLOOKUP, INDEX & MATCH, Pivot Tables, COUNTIFS, SUMIF.
* External Resources: Microsoft Excel Documentation, Kaggle AI Hiring Trends Report.