Power BI Insights Report

Project: Generative AI & Patent Trends Analysis

Date: [Insert Date]

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1. Introduction

Generative Artificial Intelligence (Gen AI) refers to a category of AI models that can generate new content,

This report presents insights extracted from the Power BI project on Generative AI and Patent Trends. The

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2. Generating Synthetic Data for Patent Analysis

To generate synthetic data for AI patent analysis, the following steps were followed:

1. Data Structure Definition: The dataset was structured with key patent attributes, including:

- Patent Number
- Title
- Filing Year, Publication Year, Grant Year, Expiration Year
- Assignee Name & Country, Inventor Name & Country
- IPC Code, CPC Code, USPC Code
- Technology Sector, Legal Status
- Cited and Citing Patents Count
- Filing, Publication, and Granting Country
- Patent Valuation, Litigation Data, Licensing Status
- AI Model Type, Neural Network Architecture, Training Method, Programming Frameworks
- Industry Use Case
- Filing Date, Grant Date, Assignee, Country

2. Data Synthesis: A mix of probability distributions and realistic naming conventions were used to simulate

3. Validation: The dataset was checked for consistency, ensuring there were no missing values or unrealist

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3. Key Insights from Visuals

AI Model Type Trends

- GAN models saw a significant decline, trending downward from 2000, with a 94.43% drop (from 1,289) ov

- Indicates a shift away from GANs towards newer AI models.

Programming Framework Distribution

- TensorFlow had the highest total count among AI model types at 33,538, closely followed by JAX (33,531

- Suggests TensorFlow remains the most popular framework for AI model development.

Model Count by Framework

- GNN in JAX accounted for 6.83% of the total AI model count.

- Highlights JAX's growing adoption in Graph Neural Networks (GNNs).

Declining Trends in AI Models

- The average AI model count was highest in TensorFlow (6,707.60), followed by JAX (6,706.20) and PyTo

- Suggests stable growth across major frameworks with slight variations in preference.

Patent Trends Analysis

- The number of AI-related patents has seen a strong upward trend, especially in the last decade.

- Major patent filers include OpenAI, IBM, and Google, indicating strong industry investment.

- The distribution of patents across different AI domains shows a concentration in machine learning and ne

- Patent citations indicate that recent AI innovations heavily reference work from the past five years, demon

Other Key Insights

- Additional trends observed include framework performance variations and shifts in AI adoption.

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4. Conclusion

This report provides a comprehensive overview of AI model trends, programming framework distributions, a

Patent trends suggest an increasing focus on AI innovations, with leading organizations actively contributin

For further analysis, deeper segmentation can be explored based on industry applications and year-over-y

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End of Report