

THE GLOBAL IMPACT OF ARTIFICIAL INTELLIGENCE

Trends, Data Insights, and Future Outlook

Objectives

- Measure how AI Tool adoption rates are growing globally and how they differ by country, industry, and firm size
- Identify countries and industries leading AI investment and readiness
- Examine the impact of AI on jobs, including automation risk, skill demand, and salary trends
- Assess the role of GDP, R&D investment, and government policy in accelerating AI adoption
- Provide data-driven insights to support future AI workforce and policy planning

Data Collection

- Kaggle: AI adoption, index, jobs, job impact (2030)
- OECD: R&D expenditure (country level)
- World Bank: GDP & macroeconomic indicators

Methodology

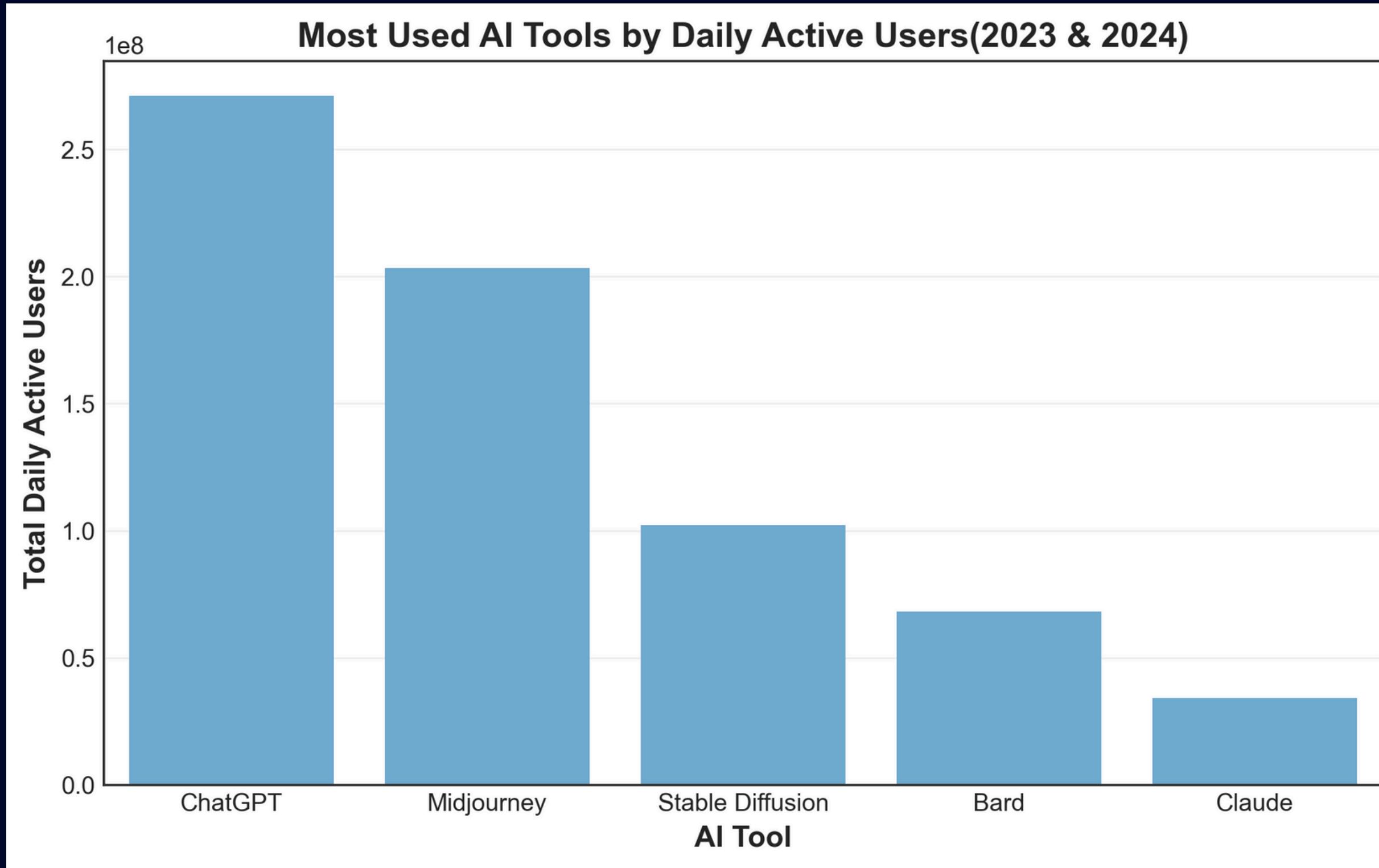
- Data Cleaning & Preparation: missing values, normalization, merge datasets
- EDA & Visualization: trends, comparisons, correlations (Seaborn & Matplotlib)
- Clustering (K-Means): group countries by AI jobs and indicators

kaggle



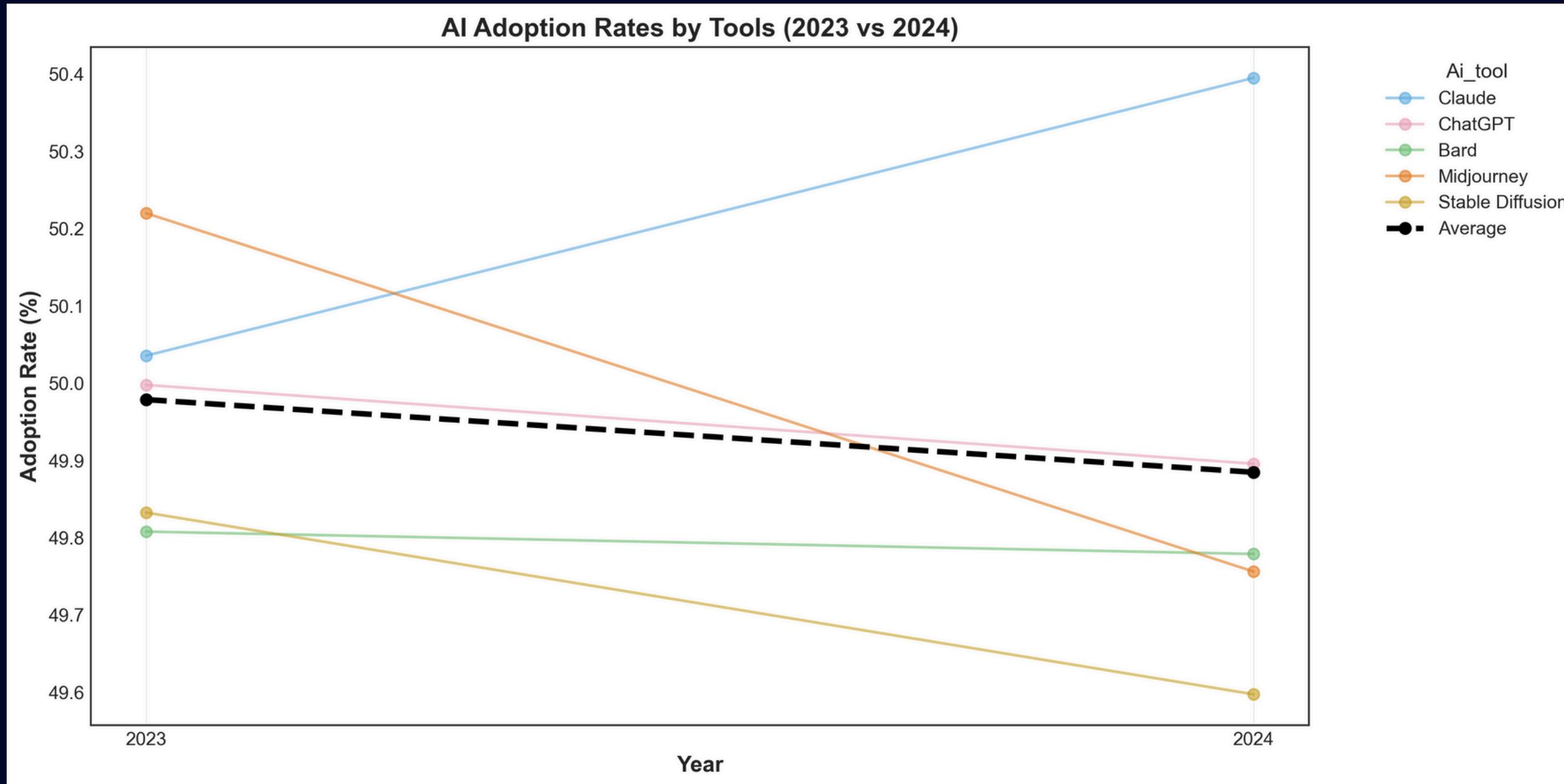
How fast is AI adoption growing globally?

Which AI tools are most used by daily active users??



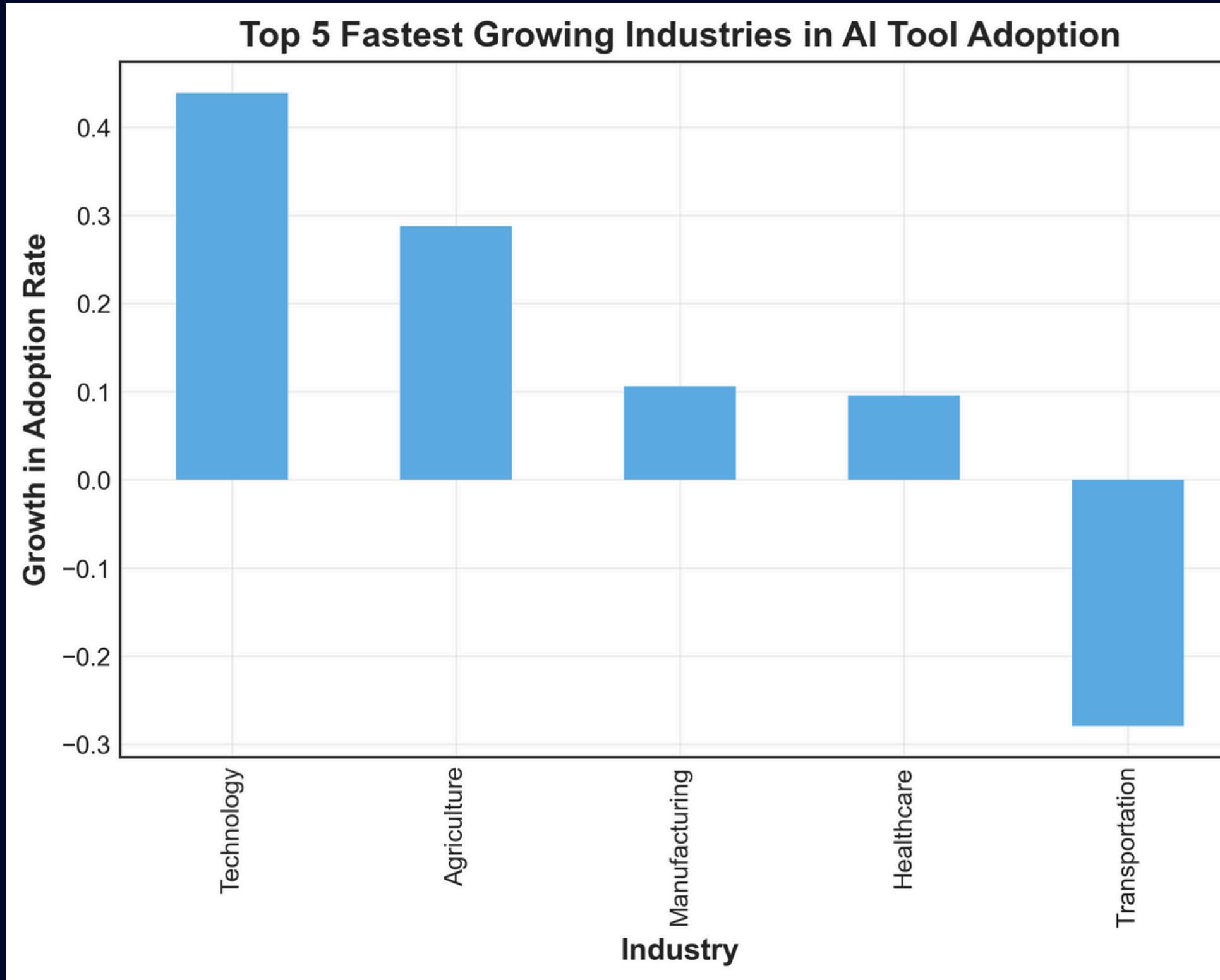
- ChatGPT has the highest daily active users
- Midjourney is the second most used tool
- Claude has the lowest usage

How have AI tool adoption rates changed from year to year within each country?



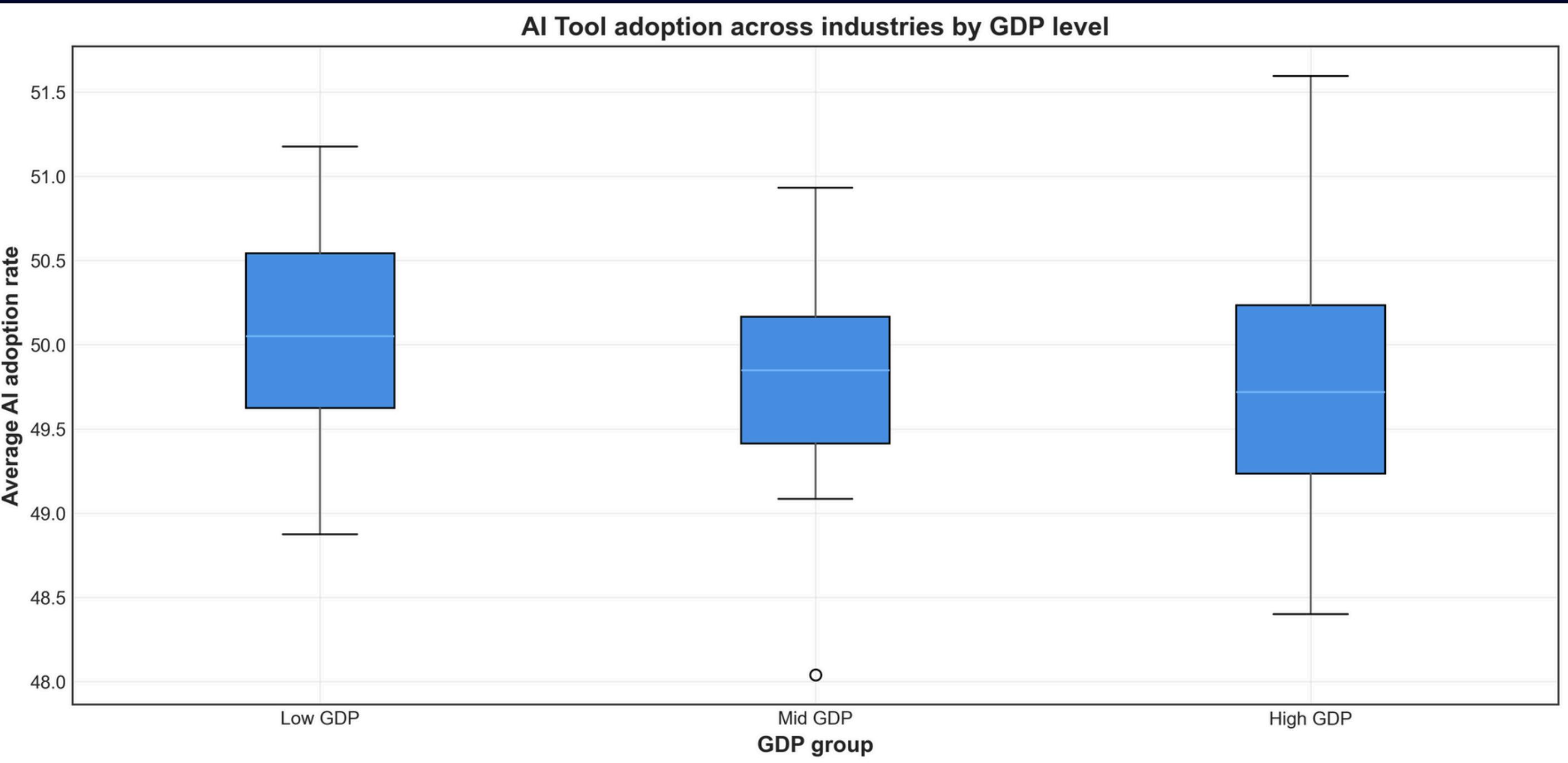
- Some tools like Claude show rapid adoption.
- Others have plateaued or decreased slightly.

Which industries show the fastest growth in AI Tool adoption rates over time?



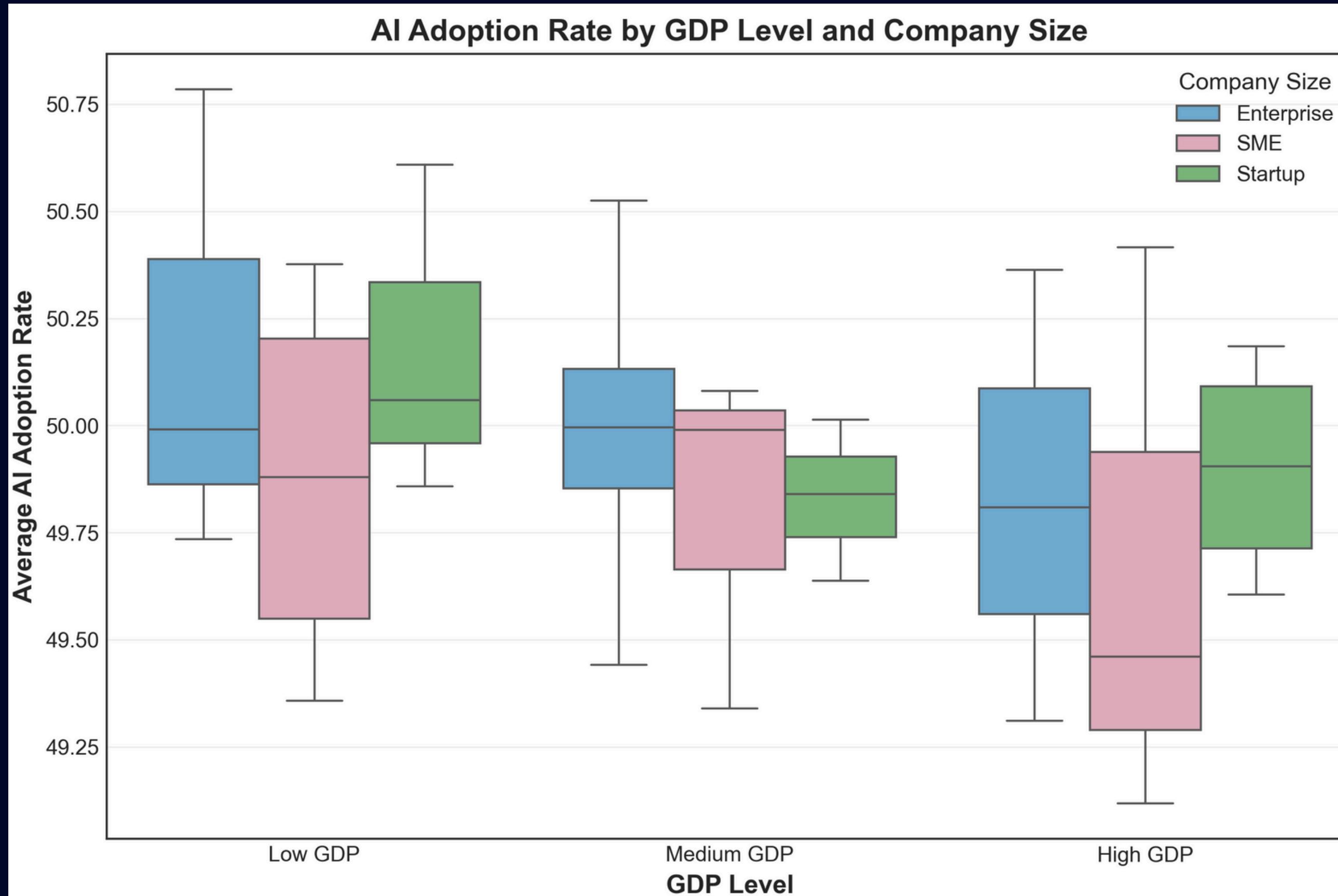
- Technology leads growth
- Agriculture shows strong adoption
- Transportation lags

Are higher-GDP countries adopting AI faster across industries?



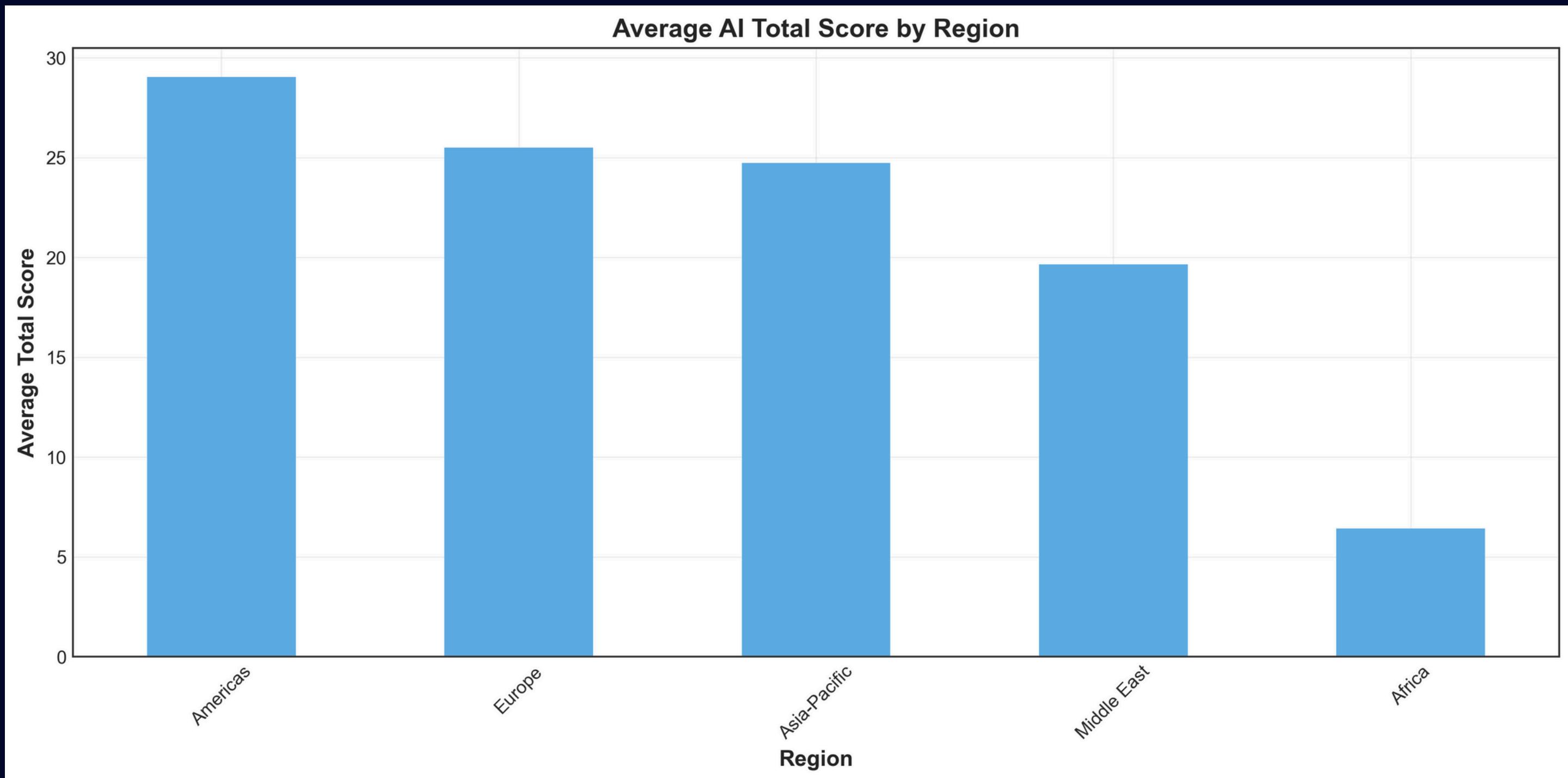
- High GDP countries adopt AI more
- Differences are not extreme
- AI is accessible globally

Does GDP influence adoption differently for small vs. large companies?



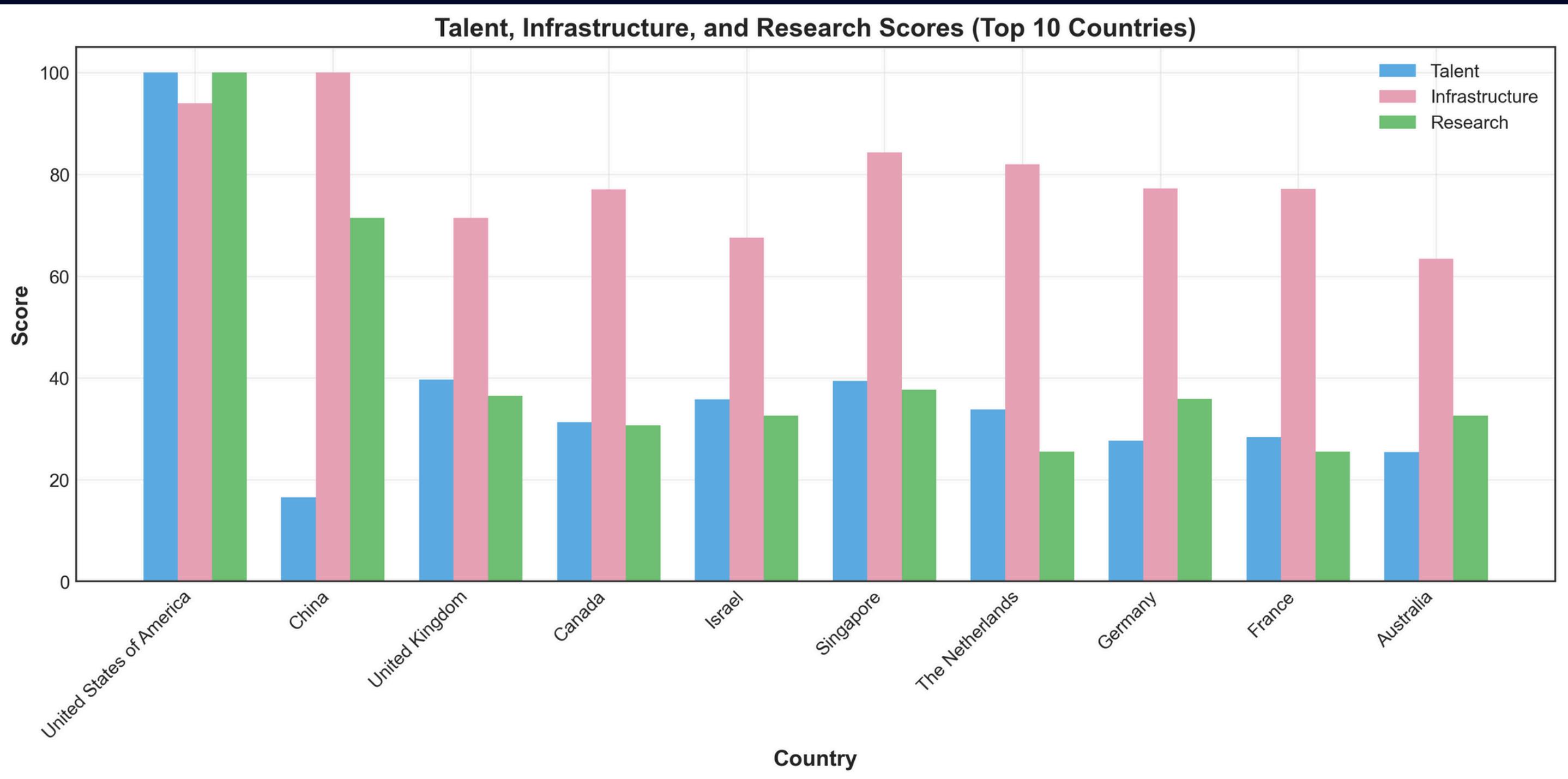
Which countries and industries are investing most in AI?

Are there regional clusters of high-performing AI countries?



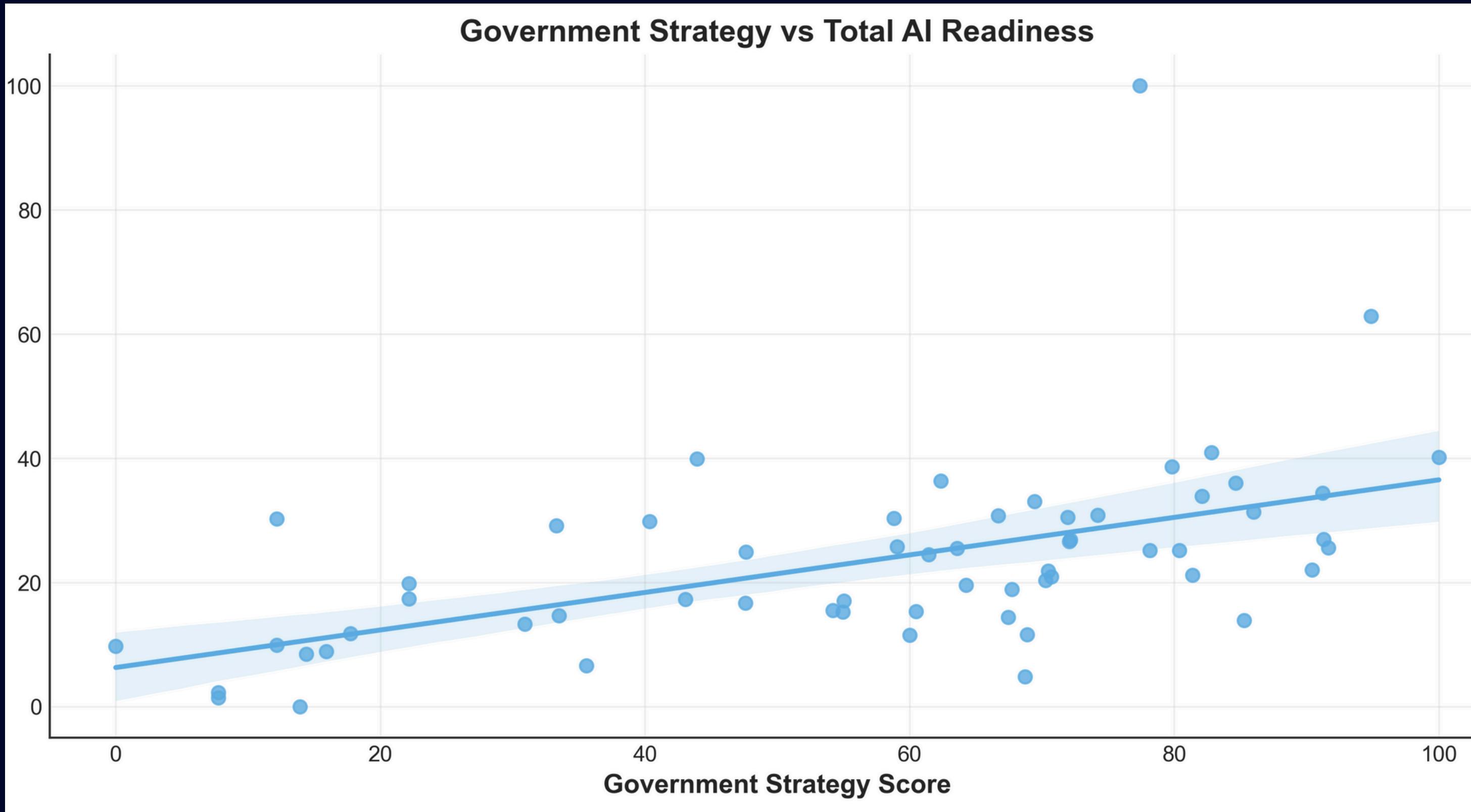
- North America leads
- Europe follows
- Asia growing fast
- Africa emerging

Which countries score highest in Talent, Infrastructure, and Research?



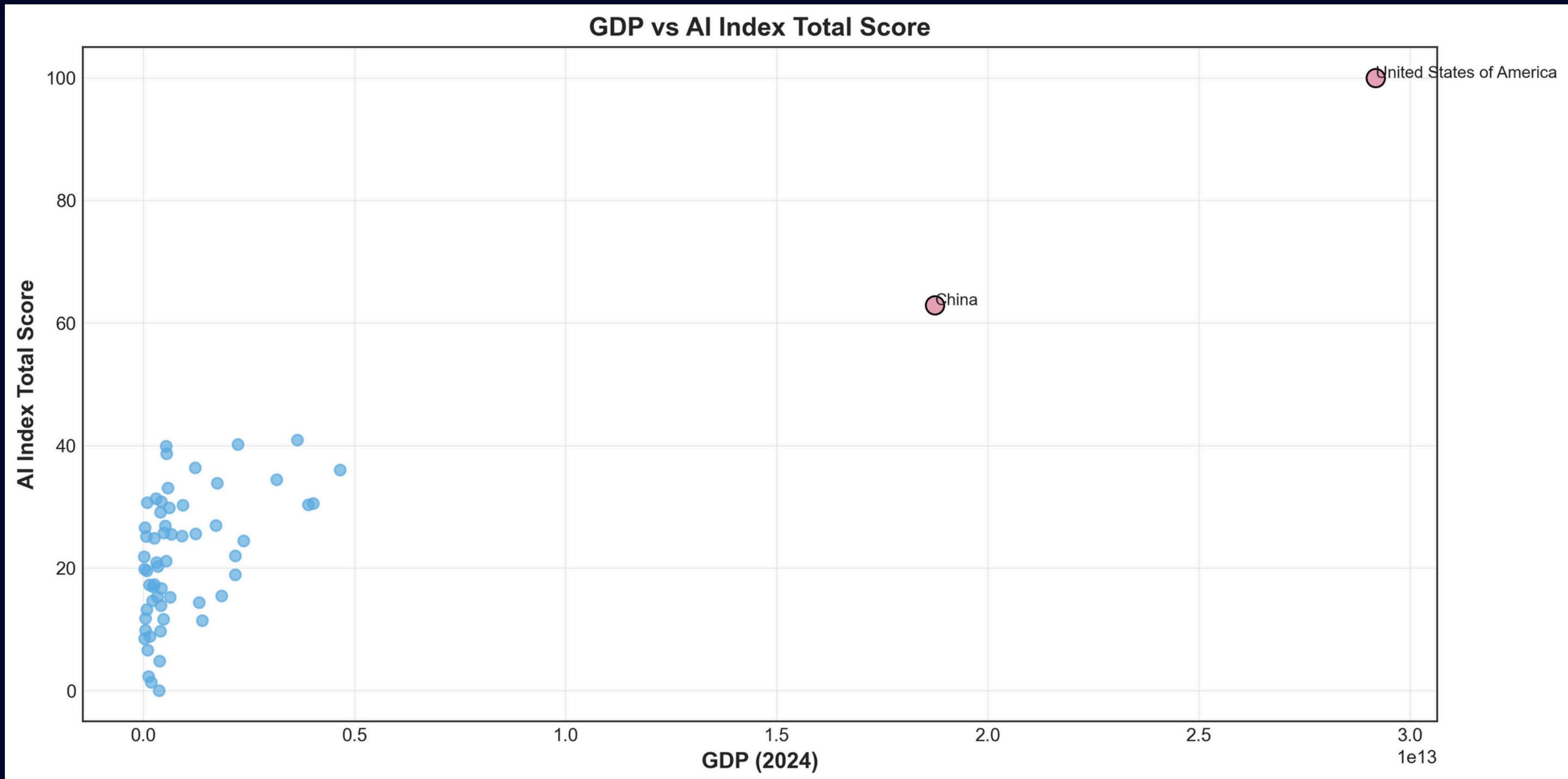
- USA and China lead
- Strong investment in talent
- Research drives AI leadership

How does government strategy contribute to overall AI readiness?



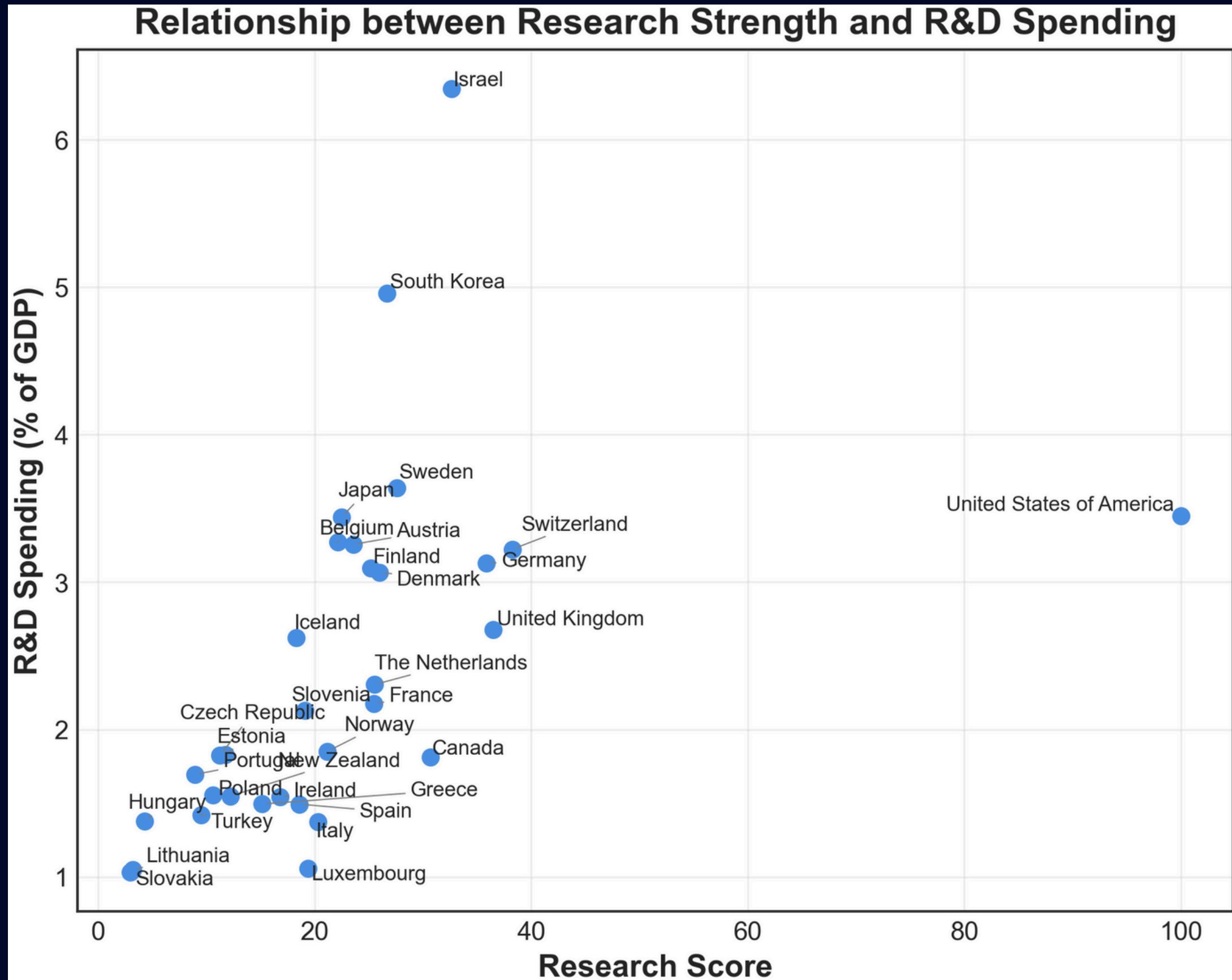
- Strong positive relationship
- Better strategy → higher readiness
- Policy matters

Do high-GDP countries have higher AI Index Total Scores?



- Strong positive relationship
- High GDP → higher AI score
- Strategy can outperform GDP

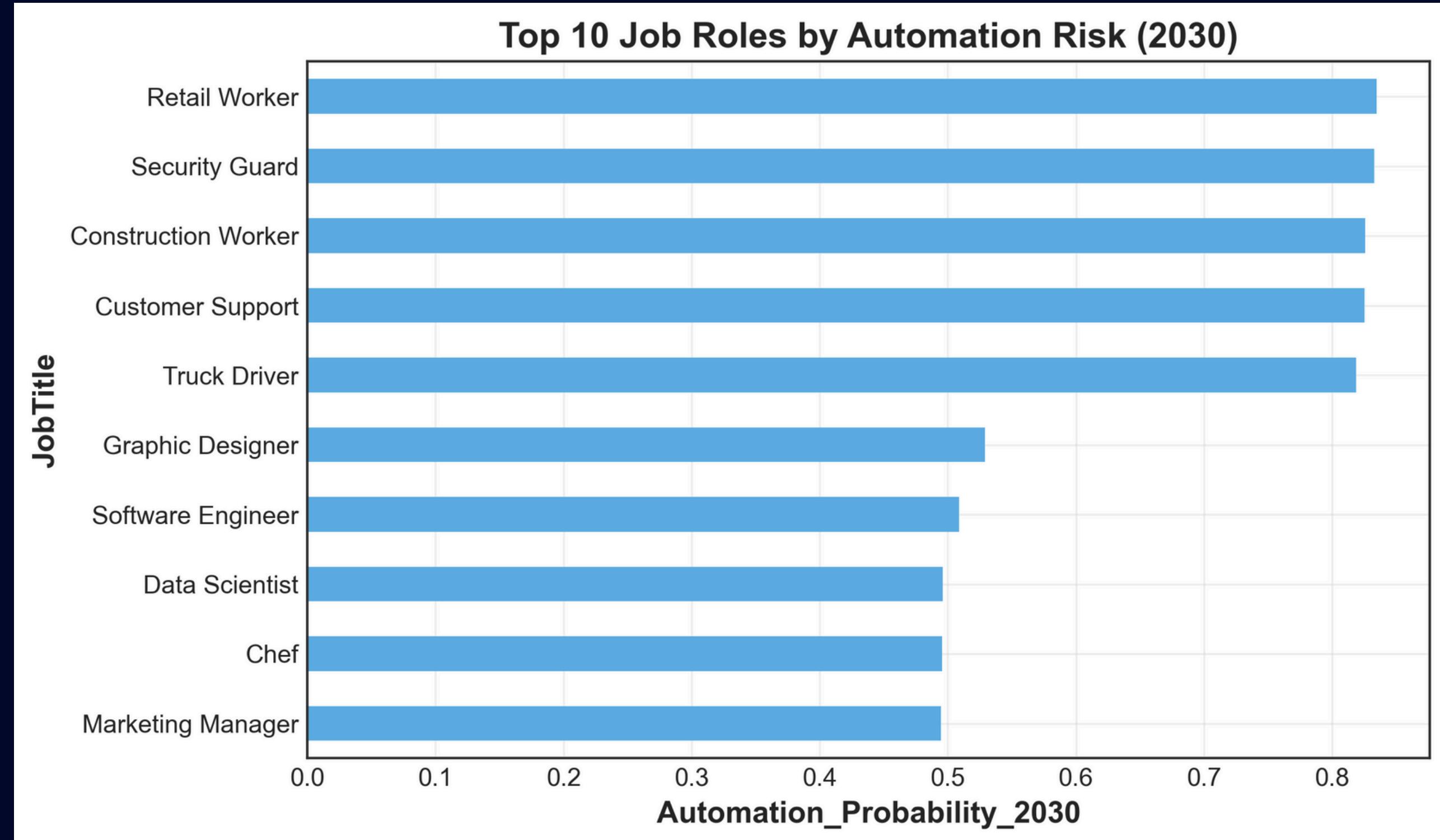
Do research-rich countries also invest heavily in national R&D spending?



- Higher R&D spending → stronger research scores
- Efficiency of fund use matters too

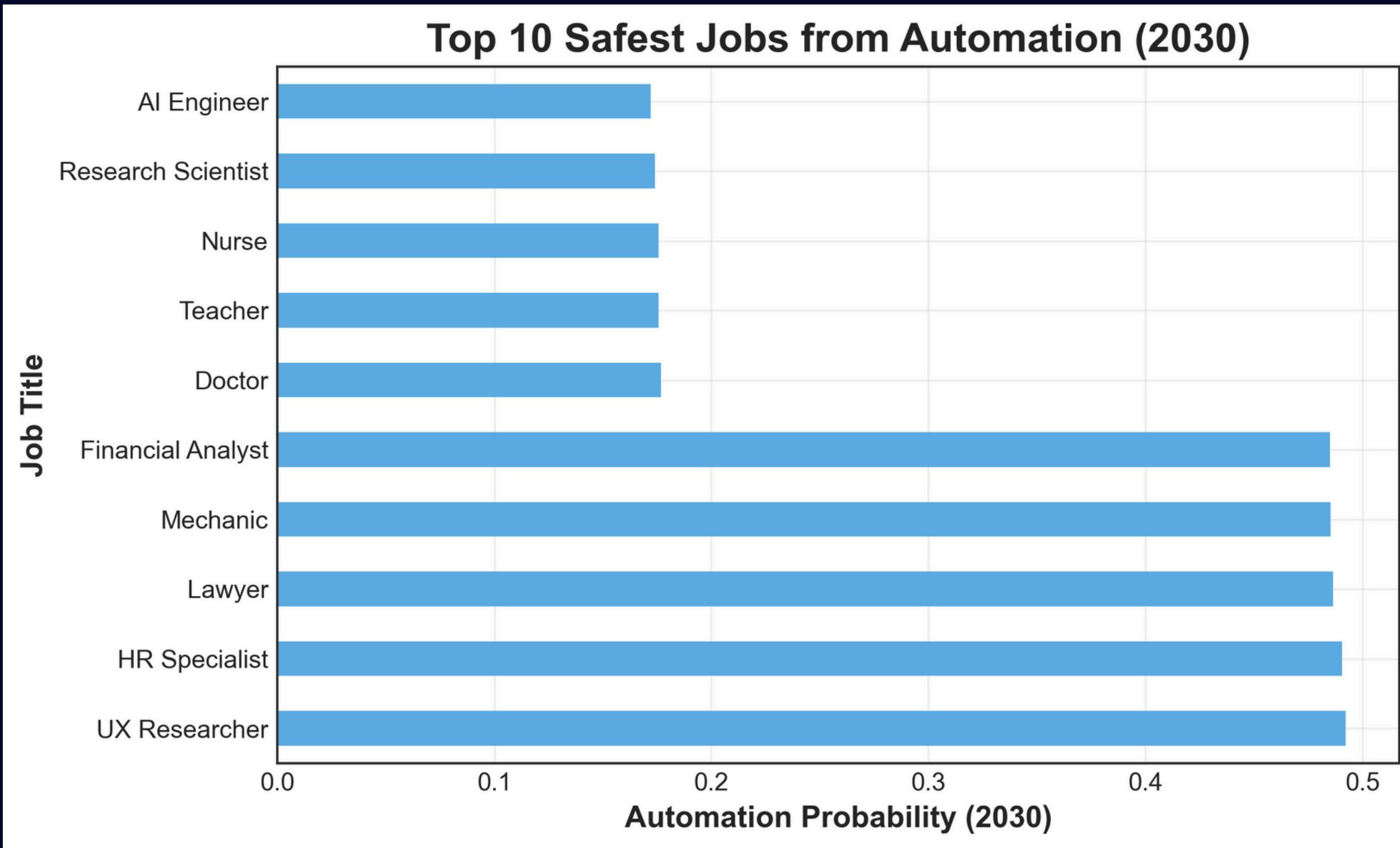
How is AI changing the job market?

Which job roles have the highest automation probability by 2030?



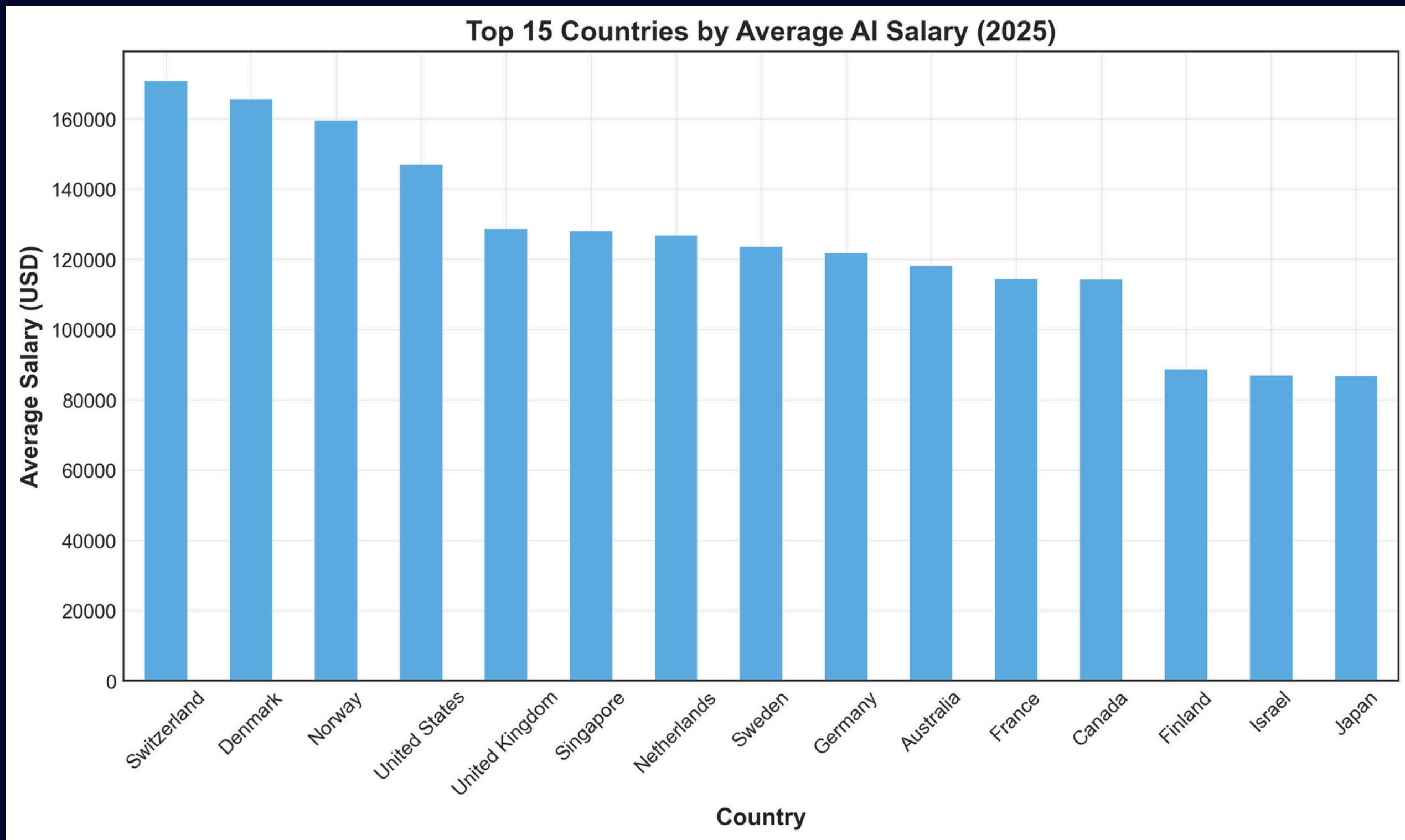
- Retail Worker, Security Guard
→ highest risk
- Manual & repetitive jobs most affected
- Automation risk above 70% for some roles

Which job roles are safest from automation (lowest risk and probability)?



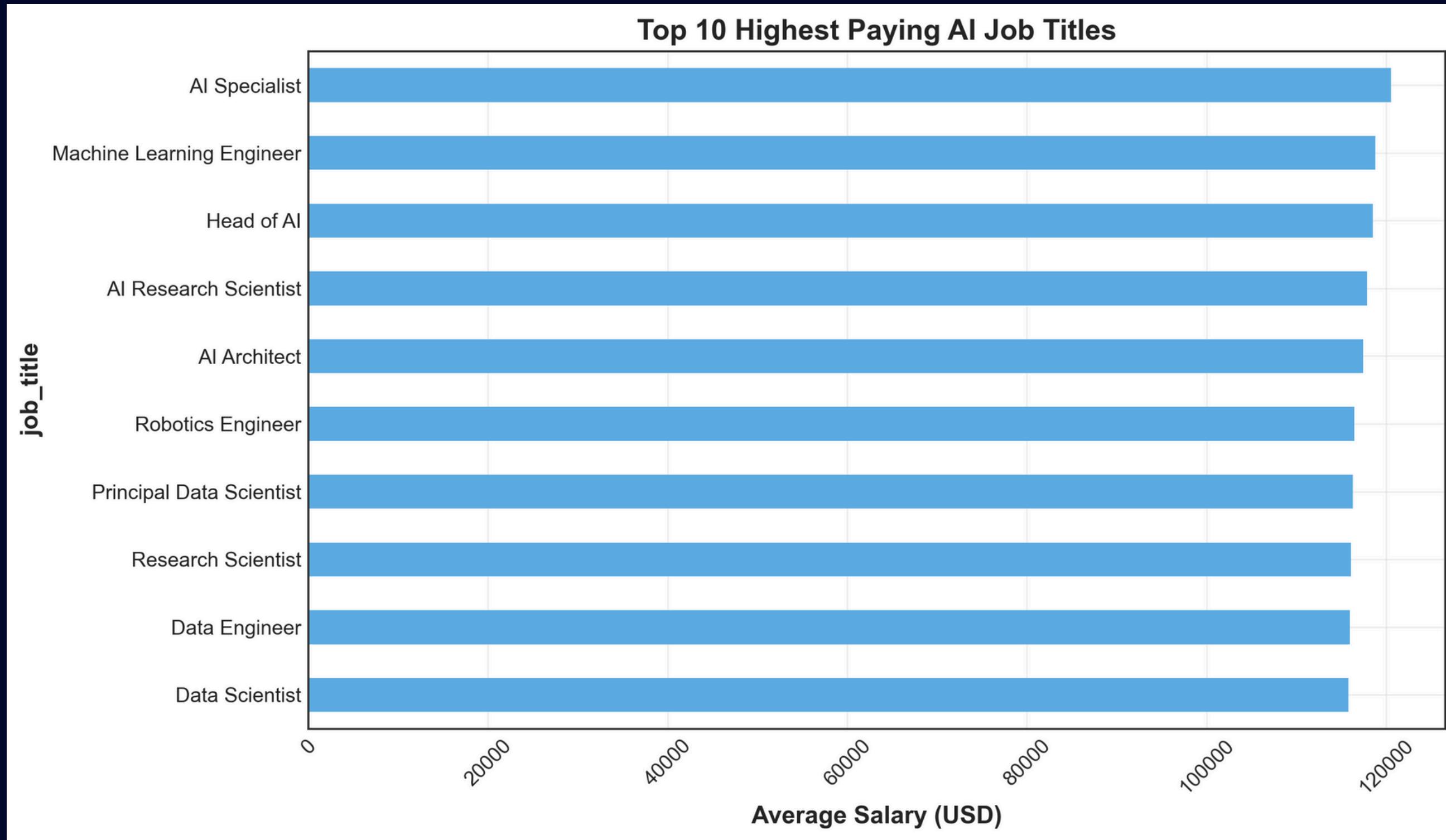
- AI Engineer & Research Scientist are safest
- Healthcare & education jobs are secure
- Creative & decision-based roles protected

How do AI salaries vary across different countries and regions?

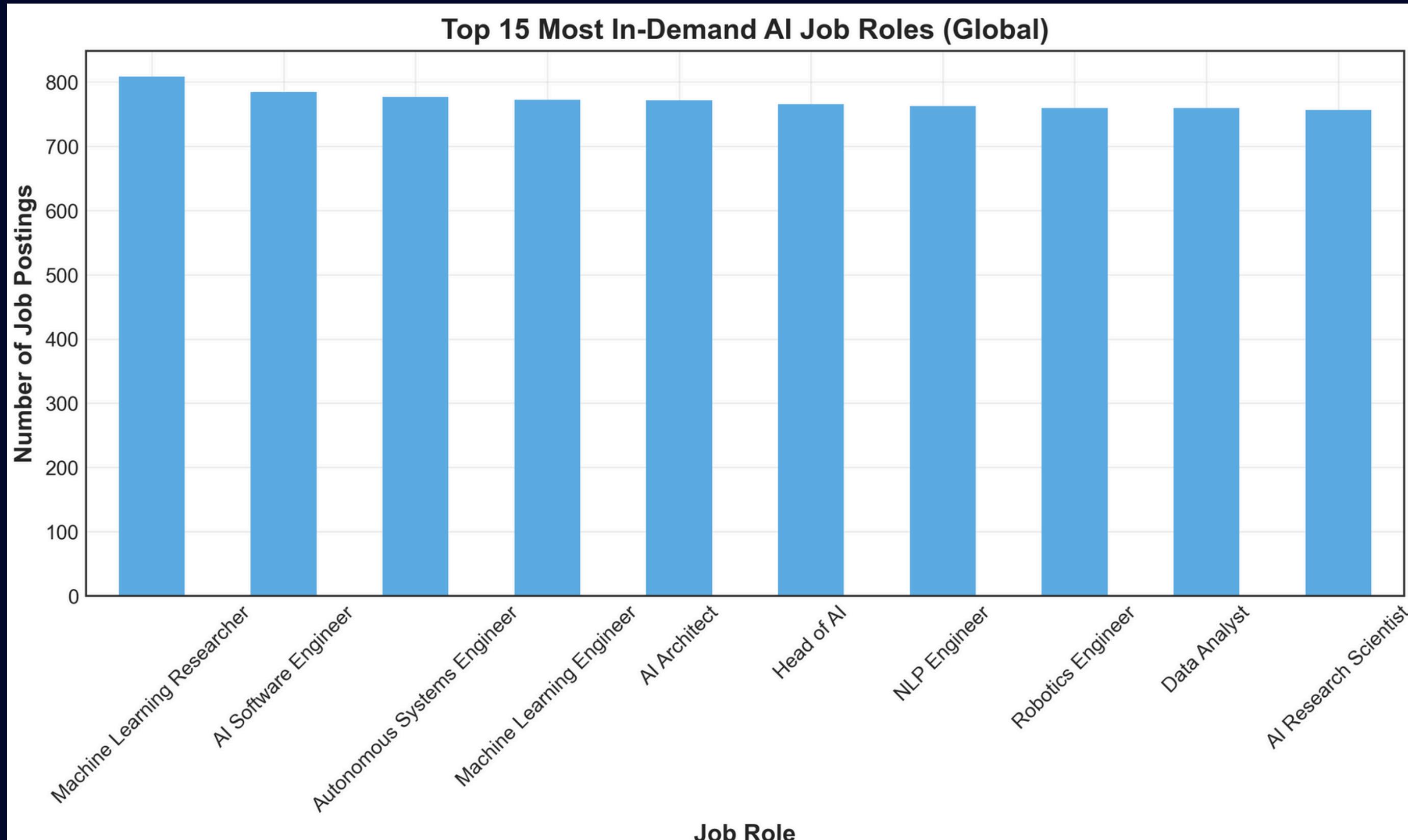


- Switzerland & Denmark lead
- Strong presence of developed economies
- Salaries vary by geography

Which are the highest-paying AI jobs(USA) in 2025?

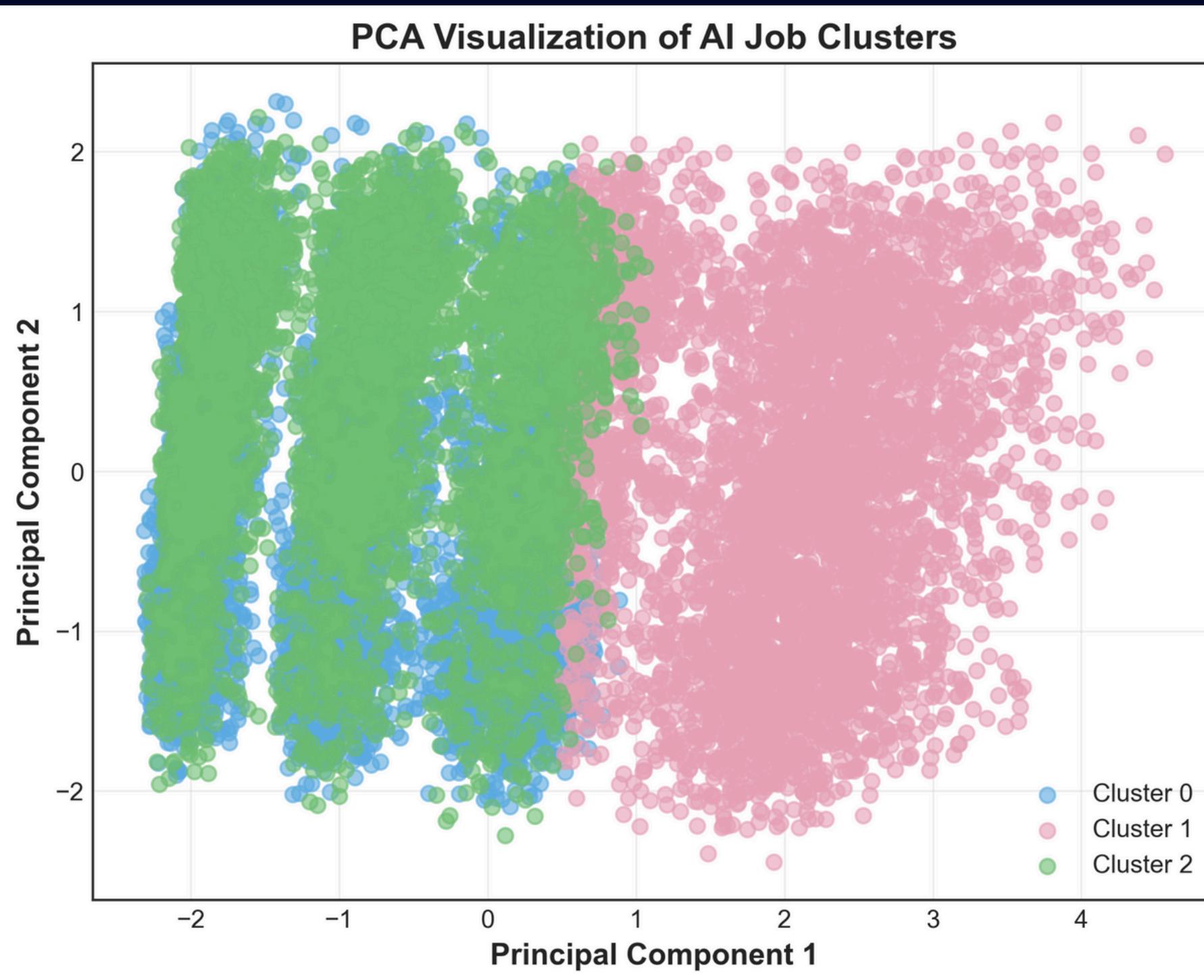


Which AI job roles are most in demand globally?



AI Job Market Clustering Analysis

PCA Visualization of AI Job Clusters



- K-Means clustering applied to global AI job data
- Features: salary, experience, remote ratio, benefits, company size
- Optimal clusters selected using the Elbow Method

Cluster Insights

	salary_usd	remote_ratio	years_experience	benefits_score
0	80794.07	71.55	3.21	7.5
1	183136.17	51.65	13.13	7.5
2	88301.45	25.6	3.05	7.51

- Cluster 1: High salary, high experience, balanced remote & hybrid
- Cluster 0: Entry-level, low salary, high remote work
- Cluster 2: Entry-level, higher salary, low remote work

Conclusion:

- ChatGPT has the highest number of daily active users in 2023 and 2024, indicating strong demand for conversational and productivity-focused AI tools.
- Claude has experienced rapid adoption between 2023 and 2024, showing dynamic growth in the AI landscape.
- AI adoption across industries shows technology leading, followed by finance, healthcare, and traditional industries like retail and manufacturing, highlighting AI's expanding role in efficiency and innovation.
- GDP and AI readiness have a positive relationship, but smart strategy, talent, and investment can allow some lower-GDP countries to outperform expectations.
- AI automation risk is highest for repetitive, rule-based jobs such as retail workers, security guards, construction workers, and truck drivers. Jobs requiring creativity, judgment, and emotional intelligence, like doctors and AI engineers, are safer.
- Clustering analysis of AI roles shows that entry-level salaries vary with remote work availability: higher remote work often comes with lower pay, while lower remote work can be associated with higher pay.

THANK
YOU