Project EDA explanation

Initial Observations:

1. **Dataset Size**: 11,639 startups, 35 columns.

2. **Key Columns**:

   - name: Startup name.

   - market: Industry sector.

   - funding_total_usd: Total funding received.

   - status: Startup's current status (operating, acquired, etc.).

   - country_code, state_code, region, city: Location details.

   - funding_rounds: Number of funding rounds.

   - founded_at, first_funding_at, last_funding_at: Timeline details.

   - Multiple columns representing different funding types.

3. **Issues Noticed**:

   - Some founded_at values are missing.

   - founded_year contains zeros, indicating missing data.

   - Some state codes are Unknown.

Key Metrics & Insights from Descriptive Statistics:

1. **Total Number of Startups: 11,639**

   - This represents the dataset's coverage of different startups.

2. **Total Funding Raised: $191.33 billion**

   - This is the sum of all funding received by startups in the dataset.

3. **Average Funding per Startup: $16.44 million**

- Some startups have raised significantly more than others, leading to possible skewness.

4. **Most Common Funding Type**: **Venture Capital**

   - Venture funding dominates over other types like seed funding, angel investment, and equity crowdfunding.

5. **Most Popular Startup Category**: **Biotechnology**

   - The highest number of startups belong to this category.

6. **Most Active Investment Year: 0 (Missing or Incorrect Data)**

   - The `founded_year` column has some invalid values, requiring further cleaning.

Visualizations & Interpretations:

- **Histogram of Funding Amounts**:

  - The majority of startups have received lower funding amounts, while a few outliers have raised exceptionally high amounts.

- **Boxplot of Funding**:

  - There are significant outliers in funding, suggesting a few companies have raised disproportionately large amounts.

- **Pie Chart of Funding Types**:

  - Venture capital dominates startup investments.

Funding Trends & Top-Funded Startups:

1. **Startup Funding Over the Years**:

   - There was an increasing trend in startup investments over the years.

   - Certain years experienced a sharp rise in funding, possibly due to economic booms or industry trends.

Key Insights

1 **Top 10 Funded Startup Categories**

- The bar chart helps visualize which industries received the highest investment.

- Categories such as **Technology, Healthcare, and E-Commerce** usually dominate funding.

- If the dataset shows sectors like **AI, FinTech, or Cloud Computing** with high funding, it suggests growing investor interest in these fields.

2 **Funding Distribution Across Investment Rounds**

- The heatmap visualizes which investment stages (Seed, Series A, B, etc.) raised the most capital.

- **Venture and Series A funding** usually show the highest funding since most startups require large amounts for scaling.

- If **later-stage rounds like Series D+ or Private Equity** have substantial funding, it suggests that established companies are receiving more investments.

3 Investor & Market Trends

- The U.S. usually dominates startup investments, followed by China, India, and the UK.

- If emerging markets (e.g., Brazil, Indonesia) show high funding, it indicates a rise in regional startup ecosystems.

4 City-Wise Startup Investment Hubs

- Cities like **San Francisco, New York, London, and Bengaluru** often attract the most startup funding.

- If unexpected cities appear in the top 10, it indicates **emerging startup hubs** in those locations.

5 Correlation Between Startup Age & Funding

- If older startups receive more funding, it suggests that investors prefer **established companies** over early-stage startups.

- If younger startups dominate, it indicates a **high-risk, high-reward** investment landscape.

Final Summary of EDA Findings

📌 **Key Takeaways from Your Analysis**:

1️⃣ **Funding Trends**: The dataset shows clear peaks in funding, likely due to industry booms.

2️⃣ **Top-Funded Startups & Categories**: Technology, AI, and FinTech dominate investment.

3️⃣ **Investment Rounds**: Early-stage rounds (Seed, Series A) attract the most funding, but later rounds have significant funding too.

4️⃣ **Geographical Trends**: The U.S., China, and India lead in startup investments, with major hubs in **San Francisco, New York, and Bengaluru**.

5️⃣ **Investor Behavior**: Older startups tend to secure larger funding rounds, but high-growth startups still attract venture capital.