Pokémon Data Analysis

Exploratory Data Analysis (EDA)

Overall Stat Distribution

- The **Total base stats** vary significantly across Pokémon.
- Most non-legendary Pokémon fall in the **300–500 range**.
- Legendary Pokémon dominate the **top stat ranges**, often exceeding **600 total stats**.

This indicates intentional power scaling for legendary characters.

Legendary vs Non-Legendary Pokémon

- **Legendary Pokémon** have:
  - Higher average Attack, Special Attack, and Defence
  - Significantly higher Total stats
- **Non-Legendary Pokémon** show greater diversity in stat distribution

Legendary Pokémon are designed for dominance rather than balance.

Type-Wise Insights

- Common types include:
  - **Water**
  - **Normal**
  - **Grass**
  - **Fire**
- Certain types (Dragon, Psychic, Steel) tend to have **higher average total stats**
- Dual-type Pokémon often outperform single-type Pokémon in total stats

Type combination plays a crucial role in overall strength.

Generation-Wise Trends

- Later generations show:
    - Increased average stats
    - More complex type combinations
- Early generations focus on simplicity and balanced stats

Power creep is visible across generations.

Speed & Attack Patterns

- Speed varies widely even within the same type
- High-speed Pokémon usually trade off defence
- Defensive Pokémon often have lower speed

Stat trade-offs are clearly embedded in Pokémon design.

Key Insights

- Legendary Pokémon skew overall averages
- Dual-type Pokémon are generally stronger
- Certain types consistently outperform others
- Newer generations introduce stronger Pokémon
- Stat trade-offs maintain gameplay balance