**Understanding & Exploring Data Bias**

**Task 1: Identifying Bias in AI-Generated Text**

**Step 1: Generating an Example of a Left-Handed Person Writing**

*Prompt:*

"Describe a left-handed person writing in a notebook."

*AI Response:*

"John, a left-handed writer, carefully grips his pen, angling his wrist to avoid smudging the ink as he writes. Unlike right-handed individuals, he has to adjust his posture and technique to accommodate the writing style. Many left-handed people find it challenging to use standard spiral notebooks and often struggle with ink smudging."

**Step 2: Identifying Bias in the Response**

* The response **assumes** that left-handed people always struggle or need adjustments when writing.
* It **implies** that right-handed writing is the default or easier.
* This shows a **bias towards right-handed individuals**, reinforcing the idea that left-handedness is an inconvenience rather than just another natural variation.

**Step 3: Researching Other Common AI Biases**

AI models can inherit biases from training data, leading to unintended assumptions. Here are some common AI biases:

1. **Gender Bias** – AI-generated text may assume traditional gender roles (e.g., associating doctors with men and nurses with women).
2. **Racial Bias** – Models may reinforce stereotypes based on race due to biased training data.
3. **Socioeconomic Bias** – AI may assume certain lifestyles, favoring wealthier individuals' perspectives.
4. **Cultural Bias** – AI responses may lean towards Western perspectives, ignoring diverse global viewpoints.
5. **Language Bias** – Some languages have better AI support than others, leading to misinterpretations or poor translations.
6. **Political Bias** – AI-generated text may unintentionally reflect biases from political sources used in training data.
7. **Religious Bias** – AI might favor dominant religions or misrepresent less common faiths.
8. **Disability Bias** – AI may not always consider accessibility needs or portray disabilities accurately.

**Conclusion**

Bias in AI models is often a reflection of the data they are trained on. Understanding and documenting these biases is essential for improving fairness and inclusivity in AI systems