

# Xiaomi Social Media Analysis



## Overview

This project is a prototype for analyzing **real-time social media comments** on Xiaomi products. It aims to provide insights into customer sentiment and highlight recurring issues for Xiaomi's product line.

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## Business Problem

Xiaomi, a leading technology company, continuously launches new products. A key challenge is **monitoring public feedback** effectively to identify product issues and customer concerns as they arise.

## Analysis

### Sentiment Analysis:

A machine learning model (Naive Bayes) was developed to classify comments as **positive, negative, or neutral**.

The model was trained using publicly available datasets and social media platforms such as Reddit (<https://huggingface.co/datasets/LingolITGN/reddit-sentiment-model-hubs>).

The achieved accuracy is approximately **70%**, which is acceptable given the diversity and variability of social opinions.

### Real-Time Dashboard

The project includes a **dashboard with five main components**:

1. **Pie chart:** Shows the percentage of each sentiment.
2. **Word cloud (content):** Highlights the most frequently used words in comment text.
3. **Word cloud (titles):** Highlights the most frequently used words in post titles.
4. **Sentiment over time plot:** Displays sentiment trends for a specific year (data\_year).

The dashboard is updated every `n_s_between_update` seconds. (Streaming may experience minor delays depending on connection stability.)

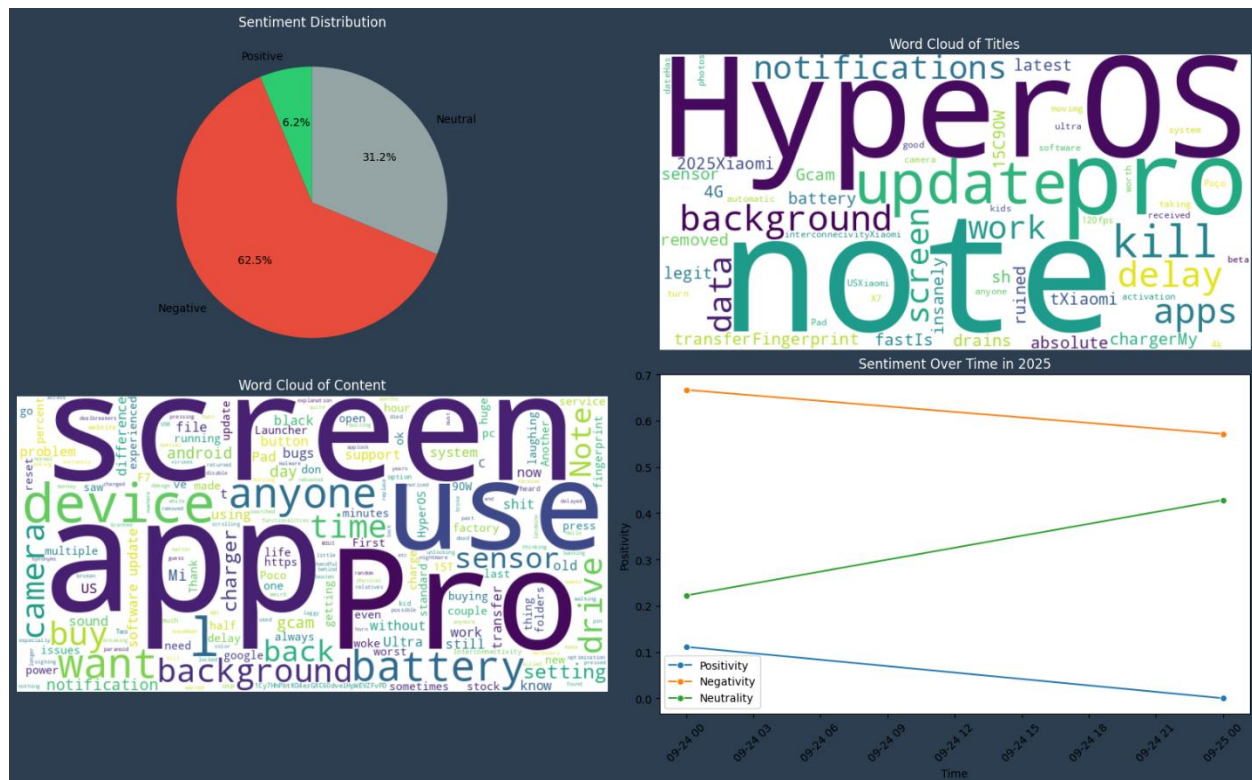
## Modifiable Parameters

- `n_s_between_update`: Interval (in seconds) for updating the dashboard.
- `data_year`: Year to focus on in the sentiment-over-time plot.

## Results

Analysis reveals several recurring issues reported by users:

- **Battery drain:** Rapid discharge, night-time drain, and excessive power usage by system launcher.
- **Background app issues & delayed notifications:** Apps close unexpectedly, and push notifications are delayed.
- **Software bugs & UI glitches:** Black-screen backgrounds, sensor failures, unusual sounds, laggy scrolling, and unwanted automatic updates.
- **Hardware failures:** Broken screens, malfunctioning fingerprint sensors, non-responsive power buttons, and camera color issues.
- **Charging questions:** Compatibility of generic USB-C chargers with Xiaomi devices.
- **Feature compatibility queries:** Differences between HyperOS and MIUI, connectivity issues (home screen, Android Auto), and gCam performance.
- **Customer service frustration:** Generic replies, lack of activation-date information, and absence of effective solutions.



## Software Used

- **Python** – main programming language.
- **Kafka** – for simulating real-time comment streaming.
- **Reddit API** – primary source of social media data.
- **GPT OSS 120** – for generating concise summaries of user comments.