Date

REPORT WEEK 12

1. AVERAGE SENTIMENT BY LYRICIST AND COMPOSER

- **TOP LYRICISTS & COMPOSERS**: THE ANALYSIS IDENTIFIES LYRICISTS AND COMPOSERS WITH THE HIGHEST AVERAGE SENTIMENT SCORES (MOST POSITIVE LYRICS).

- **VARIABILITY**: STANDARD DEVIATION AND SONG COUNT HELP ASSESS CONSISTENCY IN SENTIMENT (E.G., WHETHER A LYRICIST CONSISTENTLY PRODUCES POSITIVE LYRICS OR HAS HIGH VARIABILITY).

- **OUTPUT**: RESULTS ARE SAVED IN LYRICIST_SENTIMENT_SUMMARY.CSV AND COMPOSER_SENTIMENT_SUMMARY.CSV.

2. VISUALIZATION OF SENTIMENT TRENDS

BAR PLOTS (TOP 10 ARTISTS)

- **LYRICISTS**: THE TOP 10 LYRICISTS BY AVERAGE SENTIMENT ARE DISPLAYED IN A BAR PLOT (BLUES COLOR SCALE).

- **COMPOSERS**: SIMILARLY, THE TOP 10 COMPOSERS ARE VISUALIZED (GREENS COLOR SCALE).

- **INSIGHT**: HELPS QUICKLY IDENTIFY WHICH ARTISTS ARE ASSOCIATED WITH MORE POSITIVE LYRICS.

BOX PLOTS (SENTIMENT DISTRIBUTION)

- **SPREAD & OUTLIERS**: BOX PLOTS FOR THE TOP 10 LYRICISTS AND COMPOSERS REVEAL:

  - MEDIAN SENTIMENT (CENTRAL LINE).

  - INTERQUARTILE RANGE (BOX).

  - POTENTIAL OUTLIERS (DOTS BEYOND WHISKERS).

- **INSIGHT**: SOME ARTISTS HAVE A WIDE RANGE OF SENTIMENT, WHILE OTHERS ARE MORE CONSISTENT.

LINE CHARTS (SENTIMENT OVER TIME)

- **TREND ANALYSIS**: EXAMINES HOW SENTIMENT EVOLVES FOR THE TOP 5 LYRICISTS AND COMPOSERS ACROSS YEARS.

- **KEY OBSERVATIONS**:

  - SOME ARTISTS SHOW INCREASING OR DECREASING TRENDS IN SENTIMENT.

  - OTHERS FLUCTUATE WITHOUT A CLEAR PATTERN.

HEATMAP (LYRICIST-COMPOSER INTERACTIONS)

- **COLLABORATION IMPACT**: SHOWS HOW DIFFERENT LYRICIST-COMPOSER PAIRS INFLUENCE SENTIMENT.

- **COLOR SCALE**: RED (NEGATIVE), BLUE (POSITIVE), WITH VALUES ANNOTATED.

- **INSIGHT**: CERTAIN PAIRS RESULT IN MORE POSITIVE OR NEGATIVE LYRICS THAN THEIR INDIVIDUAL AVERAGES.

3. STATISTICAL SUMMARY

- **DESCRIPTIVE STATISTICS**: INCLUDES MEAN, STANDARD DEVIATION, MIN, MAX, AND QUARTILES FOR EACH ARTIST.

- **USE CASE**: HELPS QUANTIFY SENTIMENT DISTRIBUTION BEYOND AVERAGES (E.G., SKEWNESS, EXTREME VALUES).

- **OUTPUT**: SAVED IN LYRICIST_SENTIMENT_STATS.CSV AND COMPOSER_SENTIMENT_STATS.CSV.

4. CORRELATION ANALYSIS

- **COMPOSER SENTIMENT RELATIONSHIPS**: A CORRELATION MATRIX CHECKS IF COMPOSERS WORKING WITH THE SAME LYRICISTS PRODUCE SIMILAR SENTIMENT SCORES.

- **HEATMAP INTERPRETATION**:

- o POSITIVE CORRELATION (BLUE): COMPOSERS TEND TO ALIGN IN SENTIMENT WHEN PAIRED WITH THE SAME LYRICIST.

  - o NEGATIVE CORRELATION (RED): OPPOSITE SENTIMENT TENDENCIES.

- **INSIGHT**: REVEALS STYLISTIC SIMILARITIES AND CONTRASTS BETWEEN COMPOSERS.

5. FINE-TUNED THE ARAGPT2 MODEL ON GEORGE WASSOUF'S LYRICS AND GENERATED ORIGINAL ARABIC LYRICS THAT ECHO HIS DISTINCTIVE EMOTIONAL AND LOVE-CENTRIC STYLE. ENSURED THE MODEL CAPTURES THE POETIC FLOW, RICH IMAGERY, AND HEARTFELT THEMES OF LOVE, LONGING, AND HEARTACHE CHARACTERISTIC OF WASSOUF'S MUSIC. HANDLED MODEL SETUP, TRAINING, AND LYRIC GENERATION ENABLING IT TO GENERATE NEW LYRICS FROM CUSTOM PROMPTS (EX: "يا قلبي لا تحزن").

FIRSTLY FINE TUNED THE MODEL ON OUR DATA FOR 3 EPOCHS AND GENERATED THE FOLLOWING LYRICS:

يا قلبي لا تحزن قلبى لا تبكي قلبى جرحك جرح جرحنا جرحتنا جرح قلوبنا جرح الجراح جرحينا جرح وجرحنا جروحنا جراحنا وجرح جرح جراحينا جراح جرحانا جرحا جرحونا جرحوا جرحهم جرح جروحهم جراحهم جروح جرحه جرحوه جرح جريح جرحاهم جرحين جرح قلبى جريحين جراح جراحين جروح جراح جروح جروح الجراح جروح الجروح جرح قلوب جرحو جرح الناس جرح الجرح جرح قلب جرح ناس جرحون جرح القلب جرحن جرح العيون جرح الروح جرح القلوب جرح عذاب جرح دمع جرح الالم جرح الجروح جريح جروح القلوب جروح الناس جروحك جراح الناس جراح القلوب جراح قلوب جروح الزمن جراح عيون الناس عيون جرح الزمان جرح عيون الجرح جريح عيون الجروح جراح العيون عيون جروح عيون العيون جراح الجراح عيون العين جراح وعيون جرح العين جرح عينى جرح والعين جرح والناس جرح دموع جرح الدمع جرح السنين جرح الشوق جرح الايام جرح فراق الناس حزن جرح العمر جرح الندم جرح الزمن جرح الدنيا جرح الحزن جرح الهوى جرح سنين جرح الفراق جرح الحب جرح حبك جرح الحنين جرح الصبر جرح الوجع جرح العشق جرح عتاب جرح الغرام جرح

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GENERATED LYRICS WERE PRETTY REPETITIVE THEREFORE, FINE TUNED IT FOR 5 EPOCHS AND MADE IT BETTER GENERATING THE FOLLOWING LYRICS WITH THE SAME INPUT SENTENCE:

GENERATED LYRICS 1:

يا قلبي لا تحزن انا قلبى حزين اسف انى جدا انسى آسف انت أسف بحبك جرح جرحك وانا فى بعدك جرحنى اتوب جرحتك كنت غلطان عنى انك وانت غلط نسيتنى نسيتك لانك غدره

GENERATED LYRICS 2:

يا قلبي لا تحزن تخاف انسى قلبى انا تهون تهونك اهون جرح جرحك هون جراحك انت حبك قلبك اغلى الجراح غدر اغوانى قلب اغليبى اغليه غرام حبيبى اعيش عينى قلبه القلب الهوى الغرام القلوب الدنيا الحب عيونى اغلي اغليتى والقلب حبيب الناس روحى الزمان الزمن العمر ايامى اغسليبى الايام السنين

WE'LL TRY TO GET BETTER RESULTS NEXT WEEK INSHALLAH