Quantifying User Reviews - Predicting amazon reviews

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Business Problem

- Consumers may leave product reviews in free-text form, but many do not include a rating score.
- Many platforms and teams cannot easily compare sentiment across products, especially when review formats vary or scores are missing.
- Companies rely on review scores for product benchmarking, recommendation systems, and customer sentiment tracking. When numerical scores are missing, they lose valuable signal.

Business Value

- **Standardize review scores across platforms**
  - Convert varied or missing score formats into a consistent 1–5 scale for easier comparison.
- **Quantify unstructured text reviews on social media**
  - Assign scores to reviews that have no star rating (common on social media, forums, Reddit, YouTube comments, etc.)
- **Support product evaluation & benchmarking**
  - Helps teams measure product perception, compare competitor reviews, and identify areas for improvement.

Who Does It Benefit and How:

- **E-commerce sellers & platforms**
  Enables structured review analysis and more accurate product comparisons — even when user ratings are missing.

- **Consumers**

  See clearer, more consistent product ratings — even when other users only provide written feedback.

AI Problem

- Goal: Predict the 1–5 star review score from the review text.

- This is an AI problem because:
    - We output a score based on text without users telling us a score.

    - It requires semantic understanding of natural language.

    - Manually scoring reviews by human resources are not scalable for millions of entries.

    - The review score depends on several factors like context, tone, and subtle cues in text — ideal for NLP.

Data and Evaluation

- The data we need is electronic product review with ratings on the Internet. This is feasible to acquire since customers have been leaving reviews on amazon or other platforms when they shop online.
- We manually collected 100 electronics product reviews from Amazon.
    - 20 reviews for each score from 1-5
    - Review title & body text
    - Ground truth review scores (1–5)

- Evaluation:
    - Randomly sample 10 data for training and 10 for testing for each score (1-5)
    - Metrics:
        - Mean Absolute Error (MAE)
        - Root Mean Squared Error (RMSE)
            - RMSE accounts for larger mistakes, or outliers

Feb 8, 2025 ★★★★★ Verified Purchase ⓘ

Michael

Great feel for me on the keyboard

I like that the LED display is controlled by the keyboard and not problematic software. The less software I need running the better. I bought this as an impulse buy one day while doing shopping at Walmart. I felt a few keys through the packaging and they felt nice to me. I got it home and decided I loved the feel of the keys. I like hearing the clanking sound that tells me each key has been pushed. The waving illumination is pretty to look at, but the feel of the keyboard is dynamite. I went to buy another at Walmart a month later for another computer at home and it was not longer sold. I bought it by ordering it on their website. I am glad I did. It is inexpensive and has a great feel for me.

Read less

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Data used in live demo

phayke2 OP • 3y ago • Edited 3y ago

Okay so in my short time of testing with this, the quality is great for a $3.50 keyboard from Walmart. It's also pretty good for a $17 keyboard. It charged, turned on and paired without issue to my phone and steam deck. The larger size didn't feel necessary.

Typing a paragraph felt like typing on a laptop, the keys are large and spread enough that touch typing feels normal. Using shift and backspace I am able to hit without trying. There is no lag that I can tell and all of my button presses register. Doesn't feel cramped or clumsy. Build quality seams solid, the buttons are snappy and the back is solid, sitting/laying on it shouldn't accidentally break it. The quoted standby time is 90 days, and battery claims to go 90 hours of typing on a charge

I am not sure if the media keys/brightness/volume work or not but they didn't do anything in game mode.