Strava App Review Sentiment Analysis

What 2,000 Google Play reviews reveal about where Strava wins and where it loses users.

Charlie Gall · charlie-gall.com · March 2026

2,000	82.0%	0.893	40
Google Play reviews	TF-IDF accuracy	TF-IDF AUC	sentiment tokens analyzed

THE QUESTION

What actually makes a Strava review positive or negative?

I pulled 2,000 Google Play reviews of Strava and used NLP to figure out which words are doing the heavy lifting. By training a TF-IDF model with LASSO regression, every word in the dataset gets a sentiment score, showing how strongly it predicts a bad (1-3 star) or good (4-5 star) review. The result is a ranked list of language signals that separates happy users from frustrated ones, with clear implications for where Strava should focus.

THE MODELS

Two models, one clear winner

I started with a Random Forest using only behavioral metadata as a baseline, then compared it to a TF-IDF model built on the actual review text. Turns out what people say matters a lot more than when they say it.

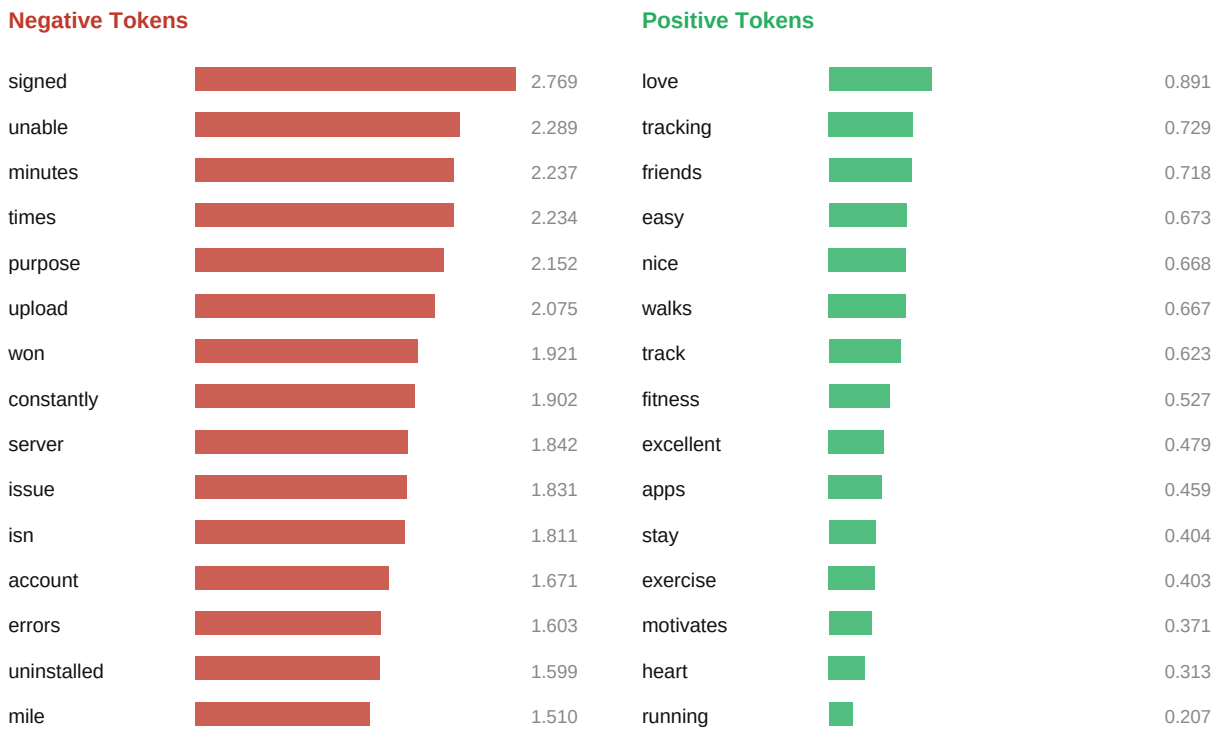
Random Forest	Length, date, version, time of day	75.5%	0.822
TF-IDF + LASSO	**Review text tokens**	**82.0%**	**0.893**

Text features improved accuracy by +6.5 pp and AUC by +0.071. Knowing *what* someone said beats knowing *when* or *how long* they wrote every time.

THE WORDS THAT MATTER

Top 15 sentiment-driving tokens

LASSO coefficients rank each word by how much it moves the needle. Negative = predicts a bad review. Positive = predicts a good one. Bigger bar = stronger signal.



PATTERNS

The negative tokens all point to the same problems

Negative Clusters

Authentication & Onboarding Failures

signed, unable, isn, won, received

Users consistently fail during sign-in and initial setup. Authentication is the single most damaging friction point in the entire experience.

Upload & Server Outages

upload, server, errors

Activity upload failures break the core record-and-share loop. Server errors are highly visible and drive immediate frustration.

Account & Access Problems

account, issue

Ongoing account management issues compound onboarding friction, suggesting systemic identity and auth infrastructure problems.

Crashes & Forced Upsell

uninstalled, constantly

App instability and aggressive paywalls drive uninstalls. Users explicitly cite these as deal-breakers in their reviews.

Accuracy & Measurement Issues

mile, minutes, time

Inaccurate GPS and pace data undermine the product's core promise for serious athletes who depend on precise metrics.

Positive Clusters

Tracking & Core Utility

tracking, track, fitness, exercise

When the product works, users love it for exactly what it is: a reliable fitness tracker. This is the core value prop validated.

Social & Community

friends, motivates, motivated, world

Strava's social layer is a genuine differentiator. Users don't just track; they compete, cheer, and stay accountable together.

Ease of Use

easy, nice, excellent, helpful, awesome

When onboarding succeeds, users find the app intuitive. The UX isn't the problem; reliability is.

Activity Culture

walks, trail, running

Positive reviews span all activity types, confirming Strava's brand is broader than running. It's the home for all outdoor fitness.

HOW IT WAS BUILT

01 Grabbed the data	Pulled 2,000 Google Play reviews and labeled them: Bad (1-3 stars) vs. Good (4-5 stars).
02 Engineered features	Added review length, word count, time/date info, app version, and season. Basically anything that might help predict sentiment beyond the text itself.
03 Ran a Random Forest	Used just the behavioral features as a baseline. Got 75.5% accuracy and AUC 0.822. Decent, but leaves a lot on the table.
04 Built the TF-IDF model	Vectorized the review text, pruned stopwords and noise, then trained a LASSO logistic regression with 5-fold CV. Jumped to 82% accuracy and AUC 0.893.
05 Pulled the token rankings	Extracted LASSO coefficients to rank every word by how strongly it predicted a good or bad review. That's where the real insight lives.

SO WHAT

What this means for Strava

Product	Fix the basics first	Login issues, upload failures, and crashes dominate the negative reviews. These aren't missing features; they're broken foundations that hurt every single user.
Marketing	Lean into the social angle	"Friends", "motivates", and community are the strongest positive signals. Strava's real edge isn't just tracking; it's the accountability and connection that comes with it.
Insight	Complaints have nothing to do with fitness	Not one fitness-related word shows up in the top negative tokens. Users aren't unhappy with the workouts; they're frustrated by sign-in errors and app crashes.
Insight	The product vision holds up	"Tracking", "fitness", "exercise", and "trail" all push sentiment positive. When Strava works, people love it for exactly what it's supposed to be.

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