

Machine Learning SEO

How Google's AI Systems Actually Rank Your Content

ML RANKING SIGNAL AUDIT CHECKLIST

3 Phases

15 Checks

2026 Data

Use this checklist alongside the full guide at aiseojournal.net. Work through all three phases in order — Phase 2 first, always.

3

ML Systems to understand

5

Signal categories to audit

10min

Phase 2 diagnostic in GSC

27

phases in sequence

■ Sequence Rule — Read Before Starting

Always run Phase 2 (Behavioural) first. It tells you which signal category is causing the ranking problem. Fixing the wrong category wastes a full Google crawl cycle — typically 4–8 weeks per change.

2

PHASE 2 — Behavioural Diagnosis

Run first · Google Search Console · 10 minutes

- Open GSC → Performance → filter by target page → filter by primary query
- Record CTR at your ranking position
CTR <2% at positions 1–5 = title or intent mismatch. Fix the title before anything else.
- Check average position trend over 90-day window
Declining position + stable impressions = engagement quality problem at page level.
- In GA4, check average engagement time for this landing page
Below 90 seconds = UX problem, not a keyword problem. Fix UX first.
- Identify problem type: (A) intent mismatch (B) semantic gap (C) technical barrier
Your diagnosis here determines which phase to run next.

1 PHASE 1 — Semantic Coverage Diagnosis

Run second · Content gap analysis

HOW GOOGLE'S AI SYSTEMS ACTUALLY RANK YOUR CONTENT

- Pull the top 10 ranking pages for your target query
List every H2 topic covered across all 10 pages.
- Count how many H2 topics your page is missing
Each missing topic = confirmed semantic gap the ML system has already flagged.
- Count specific first-hand experience signals in your content
Target: minimum 2 per page. Vague credentials ("years of experience") do not count.
- Confirm direct answer to primary query appears in first 100–150 words
Not paragraph 5. The answer must be at the top — Google's extraction systems need it there.
- Check named entities appear with sufficient context
Tools, algorithms, organisations, frameworks — each needs disambiguation context for knowledge graph association.

3 PHASE 3 — Technical Eligibility

Run third · Google Search Console CrUX field data only

- GSC → Core Web Vitals report → check LCP, INP, CLS for this URL
Field data only — not PageSpeed Insights lab score. Google ranks from CrUX field data.
- LCP must be $\leq 2.5s$ for 75% of visits
Above 3s = 23% more traffic loss risk (Dec 2025 Core Update data, ALM Corp, 150+ sites). Fix: optimise hero images, defer render-blocking JS.
- INP must be $< 200ms$
Above 300ms = 31% more mobile traffic loss risk. Fix: reduce main-thread work, defer non-critical scripts.
- CLS must be < 0.1
Above 0.15 = 19% more traffic loss risk. Fix: add size attributes to images, avoid late-loading layout-shifting elements.
- GSC → URL Inspection → confirm page is indexed and URL matches canonical
If not indexed — fix indexation before making any content changes. Content fixes on unindexed pages produce zero ranking movement.

CORE WEB VITALS — OFFICIAL THRESHOLDS

Metric	Good ✓	Needs Work	Poor ✗	Dec 2025 Risk
LCP	$\leq 2.5s$	2.5–4s	$> 4s$	–23% traffic
INP	$< 200ms$	200–500ms	$> 500ms$	–31% mobile traffic
CLS	< 0.1	0.1–0.25	> 0.25	–19% traffic

Source: Google Search Central — Core Web Vitals documentation (updated Dec 2025). Risk data: ALM Corp Dec 2025 Core Update analysis (150+ sites).

THE 5 ML RANKING SIGNAL CATEGORIES

Signal	What Google Measures	Your Diagnostic	Priority
Semantic Relevance	Topical coverage depth vs. competing indexed pages	Map H2s of top 10 ranking pages — count missing sub-topics	Very High

User Engagement	CTR, dwell time, pogo-sticking (NavBoost — 13 months data)	GSC: CTR <2% at pos 1–5 = intent mismatch	Very High
Topical Authority	Cluster of related pages on adjacent sub-topics	Count live cluster posts per pillar — gaps = risk	High
Technical Eligibility	LCP, INP, CLS, crawlability, indexation status	GSC CWV report — field data, not lab score	High
Entity Anchoring	Named entities with context for knowledge graph mapping	Google Natural Language API (free) — check salience output	Medium-High

NAVBOOST ENGAGEMENT BENCHMARKS (confirmed — DOJ trial 2023)

Metric	Threshold	What it Means	Status
Pogo-stick rate	> 40%	Actively hurts rankings — users not finding what they need	✗ Danger
Long-click rate	> 60%	Boosts performance — strong user satisfaction signal	✓ Target
CTR (positions 1–3)	< 2%	Title or intent mismatch — fix title before content	■ Fix title
Avg engagement time	< 90s	UX problem on pillar pages — not a keyword issue	■ Fix UX

QUICK REFERENCE — PRO TIPS

<p>■ GSC Engagement Check</p> <p>Before optimising any page, check average engagement time in GSC. Any pillar-level page below 90 seconds average has a UX problem that no keyword work will fix. Start there.</p>	<p>■ Featured Snippet Gap</p> <p>If a competitor holds a featured snippet with less content than yours, compare where their direct answer sits. Snippet holders typically answer in the first 50–80 words of a section. Restructure your answer to match — depth behind it stays unchanged.</p>
<p>■ Natural Language API</p> <p>Run your page URL through Google's free Natural Language API (Google Cloud console, free tier). The entity salience output shows which concepts Google is extracting as primary entities — and which you intended to anchor but under-contextualised.</p>	<p>■ CTR Filter in GSC</p> <p>Filter impressions by query, sort CTR ascending. Any page with >500 impressions and <2% CTR has a title or intent mismatch. Fix the title to match dominant SERP intent for that query before investing in content expansion.</p>

DATA SOURCES

- Google Search Central — Core Web Vitals documentation (updated Dec 2025): developers.google.com/search/docs/appearance/core-web-vitals
- Google Search Central — Ranking Systems Guide (updated Dec 2025): developers.google.com/search/docs/appearance/ranking-systems-guide
- Google Search Central — March 2024 Core Update & Spam Policies: developers.google.com/search/blog/2024/03/core-update-spam-policies
- NavBoost user signals confirmed: Google v. DOJ antitrust trial (2023)
- CWV traffic loss data: ALM Corp — December 2025 Core Update analysis (150+ affected sites)
- AI Overviews: 1.5 billion monthly users — Google I/O 2025 (Sundar Pichai keynote)
- Full pillar guide: aisejournal.net/ai-machine-learning-seo/

Read the full guide at aisejournal.net aisejournal.net/ai-machine-learning-seo/

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