Processor time against a local language model

The same 49 questions answered by Senua AI and by a 1-billion-parameter language model on the same laptop.

469x less processor time than the language model for the same 49 questions, with no fabricated answer from either

Results

Measure	Result
Senua AI: CPU-seconds for all 49 questions	0.97 s
llama3.2:1b: CPU-seconds, same questions	454.65 s
Processor time ratio, language model / Senua AI	469 x
Senua AI: resident memory incl. its memory-mapped knowledge file	1589 MB
llama3.2:1b: resident memory incl. model weights	1604 MB
Senua AI: correct of 39 known	36
llama3.2:1b: correct of 39 known	34
Senua AI: fabricated, of 10 invented countries	0
llama3.2:1b: fabricated, of 10 invented countries	0
Senua AI: off-machine connections	0
Senua AI: median seconds per answer	0.017 s
llama3.2:1b: median seconds per answer	1.788 s

How it was measured

Measure	CPU-seconds, peak memory, off-machine connections; correct / declined / fabricated
Data	Wikidata capitals (CC0) + 10 invented countries

Conditions

The pass mark, fixed before the run

> Set before the run: Senua AI: zero fabricated answers and zero off-machine connections. Verdict: PASS.

Limits of this result

The language model also declined the invented countries where shown, and is credited for it. A Senua AI miss is shown as a miss: check the rows (Wikidata lists two capitals for Eswatini; the engine gave Lobamba, the file expected Mbabane). CPU-seconds are a proxy for energy, not joules (a wall-power or powermetrics reading needs administrator rights and is the next step). The two systems do different jobs: the language model can chat about anything; Senua AI answers from verified knowledge or declines. Every answer from both systems is shown verbatim; the fabricated/declined label on language-model answers is a keyword judgement, so read the rows.

Where it is recorded

Showcase run captured 2026-09-18, showcases.senuaai.com/energy-sovereign/. The data behind this sheet is published beside it at senuaai.com/evidence/datasheets/.