

CS50 Duck (CS50.ai) — Harvard's Guardrailed AI Teaching Assistant for a Massive Introductory Programming Course

AI in Education · Good practice · United States of America

Quality score: 53/100

Evidence strength: Moderate

Summary

Since spring 2023 Harvard's CS50 has deployed a deliberately 'less helpful' LLM duck debugger that guides rather than answers; authors report positive student feedback, while admitting guardrails are probabilistic.

Key dimensions

Dimension	Score
Evidence of learning impact	1/3
Equity & inclusion	1/3
Transparency, ethics & data protection	2/3
Teacher capability & pedagogy	2/3
Scalability & sustainability	2/3

Evaluated by C-NAPSE

Data sources

[C-NAPSE web research](#) — accessed 2026-09-29

[Harvard University \(CS50\)](#) — accessed 2026-09-29

[CS50 AI notes](#) — accessed 2026-09-29

[SIGCSE 2024 paper](#) — accessed 2026-09-29

[Harvard Gazette](#) — accessed 2026-09-29

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