

NANCY SINGH

Testing tools & AI reliability | Delhi, India | Open to remote and relocation

singhnancy2004@gmail.com | +91 98211 86608 | nancy6547.github.io

github.com/nancy6547 | linkedin.com/in/nancy-singh-84367722a | medium.com/@singhnancy2004

Education

Sant Longowal Institute of Engineering and Technology (SLIET)

Punjab, India

B.E. in Computer Science and Engineering (lateral entry) – CGPA 7.28/10; SGPA rose from 5.70 to 8.60 (semesters III–VII)

2023–2026

Delhi Skill and Entrepreneurship University (DSEU)

New Delhi, India

Diploma in Digital Electronics

Projects

Zeitaku | *TypeScript, TypeScript Compiler API, Playwright, Chrome DevTools Protocol, Vitest*

[GitHub](#)

- Built a codemod on the **TypeScript Compiler API** that finds hard-coded `waitForTimeout` sleeps in Playwright tests and splices in network-aware waits while preserving the file's formatting.
- Replaced fixed sleeps with **Chrome DevTools Protocol** request tracking: on throttled Slow 3G, fixed 2s and 3s sleeps failed **100%** of runs while Zeitaku failed **0%**; **45% faster** than a safe fixed wait on a normal network.
- Scanned **7 open-source codebases (76k files)** and found **240** hard-coded sleeps; AST classification leaves alone the **44** that guard “should not happen” assertions.

Junban | *TypeScript, Chrome DevTools Protocol, Playwright, delta debugging*

[GitHub](#)

- Built a tool that finds the **order of API responses** that breaks a flaky Playwright test: it holds each response in the browser (CDP `Fetch` domain) and releases them in chosen orders.
- On races that appear only a few times in a thousand runs, it caught **6/6** planted bugs by the **5th run** each, while plain reruns caught **2/6 in 3,000 runs**.
- Shrinks each failure to one rule with **delta debugging** and writes a plain Playwright repro test that failed **20/20** times for every bug; includes a report UI with drag-to-replay.

DocMind | *Python, FAISS, sentence-transformers, Tesseract OCR, Llama 3.3 (Groq), Streamlit*

[Live Demo](#) | [GitHub](#)

- Built and deployed a **RAG** app that answers questions about any PDF, running **OCR only on pages without a text layer** so digital PDFs process in seconds.
- Added **hybrid BM25 + embedding search**: the right chunk lands in the top 3 for **96%** of eval questions vs 88% with embeddings alone (scanned page: 50% → 83%), plus a relevance guard that skips the LLM when nothing matches.

HalluGuard + Kensa | *Python, PyTorch, Hugging Face, NLI*

[Live Demo](#) | [GitHub](#) | [Kensa](#)

- Built a per-sentence hallucination detector for RAG answers; moved from cosine similarity to an **NLI cross-encoder (DeBERTa-v3)**, benchmarked on **RAGTruth** with thresholds tuned on the train split only.
- Built **Kensa**, a metamorphic test runner for RAG apps (reword, add distractor, delete evidence, edit the fact) that **delta-debug**s each failure to the minimal documents causing it.

Open Source

Google Puppeteer | *TypeScript, Node.js, CDP, WebDriver BiDi (2 merged)*

[#15587](#) | [#15590](#)

- Added `wsOptions.handshakeTimeout` so `connect()` fails fast on a silent host, and `page.setGeolocation(null)` to remove a location override over both CDP and BiDi (requested by the maintainer); each with tests and API docs.

Google Chrome DevTools MCP | *TypeScript, Puppeteer, CDP (4 merged)*

[#3148](#) | [#3144](#) | [#3198](#) | [#3199](#)

- Unhandled promise rejections now show their real reason (merged after two review rounds) and Lighthouse explains unsupported URLs instead of a bare `INVALID_URL` (merged); redirect chains no longer list later hops; console arguments such as Maps, Sets, DOM nodes and cyclic objects are now described instead of printing `{}`.

Hugging Face sentence-transformers | *Python, PyTorch, learning-to-rank losses (1 merged)*

[#4204](#)

- Fixed `PListMLELambdWeight` calling a custom `rank_discount_fn` with the padding mask instead of rank positions, which removed the position discount and zeroed the loss of shorter lists; found by reading the code, with a failing test.

Microsoft Playwright | *bug report, fixed by the Playwright team*

[#43459](#) | [fix #43472](#)

- Found that codegen escaped `${` twice in multiline aria snapshots, so generated tests crashed with a **ReferenceError**; reported it with the root cause and it was fixed upstream.

Technical Skills

Languages: TypeScript, Python, Kotlin, JavaScript

Testing & Browser: Playwright, Chrome DevTools Protocol, Vitest, GitHub Actions, TypeScript Compiler API (AST)

ML & RAG: PyTorch, Hugging Face, sentence-transformers, FAISS, LangChain, NLI cross-encoders, TensorFlow Lite

Tools: Git, Node.js, Express, Streamlit, Tesseract OCR, Linux

Achievements

- RedBus Data Decode Hackathon:** Top 500 of 8,000+ teams | **NCC “C” Certificate** (National Cadet Corps)