Rahul Bandi

LLM Agents · Build & Release Engineering · CI/CD Automation

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SUMMARY

Build and release engineer with 2+ years at National Instruments (Emerson), keeping CI healthy for 65+ hardware drivers. I lead the Build Failure Analyzer, a multi-agent LLM system that has triaged 1,350+ failed builds across NI, and received an R&D Excellence Award in Emerson's 2026 R&D Global Awards. Currently studying AI & ML at BITS Pilani alongside work, and looking to grow into applied ML and agent engineering.

SKILLS

LLMs & Agents: Multi-agent orchestration, tool/function calling, prompt engineering, LLM evaluation (labeled eval sets, trace capture), model selection across Claude and GPT, GitHub Copilot SDK
Languages & Tooling: Python (Poetry, pytest, SQLite), Bash, YAML, C++
Build & CI: Azure DevOps Pipelines and REST API, Git, Make, Yocto, Linux packaging (DEB/RPM/IPK), Selenium

EXPERIENCE

National Instruments (Emerson) · Bengaluru, India — *Jul 2024 - Present*

Staff Software Technician, Build, Test & Release — *Oct 2026 - Present*

- Lead the Build Failure Analyzer, a multi-agent LLM system used across NI that has triaged 1,350+ failed builds over 600+ work items, saving 10-15 minutes of manual triage per failure.
- Set it up so deterministic checks (known infra patterns, dedup, clustering, dependency tracing) resolve about 65% of failures with no LLM call; tool-calling agents investigate the rest in Azure DevOps and name the root-cause PR.
- Matched models to jobs (Claude Sonnet for root cause, GPT as an independent validator, Claude Haiku for clustering) and track quality on a 250-case labeled eval set, now passing 217 (87%).
- Triagers confirmed 525 of the 573 bug calls the analyzer raised (92%) before any bug was filed.
- Own build and release for 65+ drivers within a 27-person team, and mentor newer teammates on failure investigation.
- Own the Linux feed pipeline NI uses company-wide to publish all of its feeds, with CDN cache purges and SHA256 checks, saving 3-4 manual hours per patch or feed release.

Software Technician, Build, Test & Release — *Jul 2024 - Sep 2026*

- Built the Build Failure Analyzer to separate infrastructure problems from code changes and trace code breaks back to the responsible PR and author.
- Wrote Python and Selenium tools that replaced a daily round of manual dashboard checks and flagged stalled CI test events, saving about 350 engineer-hours per release cycle.
- Built the Azure DevOps pipeline NI now uses company-wide to publish all Linux feeds, and published 200+ feeds through it.
- Tracked down CI failures from a flaky FlashCache unit test to an SBOM artifact name collision and a build-tool EOF bug.

PROJECTS

Infrastructure Failure Review Agent · *Python, LLM agent, Azure DevOps*

- Goes through the build-failure report and has to call out every infrastructure cause that hits 5 or more builds, while still flagging rarer failures worth investigating.
- Moved the reporting rules out of the prompt and into code so every run gives the same, traceable answer; shipped as a tested Python package with an agent skill and its own pipeline.

Build Failure Triage · *Python, Log Analysis*

- A lightweight take on the Build Failure Analyzer: picks the line in a failed build log most likely to be the real error and matches it against known infra patterns (DNS, disk, network, agent timeouts).
- Returns an Infra or Dev verdict and exits non-zero on infra, so a pipeline can route it without anyone opening the log.

CanSat Telemetry System · *C++, ESP32, LoRa, GPS · github.com/Bandi-Rahul/cansat*

- Built an ESP32 can-sized satellite that streams GPS and gas-sensor data over LoRa in real time, and competed with it at the IEEE Brixia European and DSU CanSat competitions.

EDUCATION

B.Tech, Artificial Intelligence & Machine Learning — *Jul 2025 - Present*
BITS Pilani, Work Integrated Learning Programme (part-time, alongside full-time role)

Diploma in Computer Engineering and Information Technology — *2021 - 2024*
Nettur Technical Training Foundation (NTTF) · Grade 9.07 / 10

CERTIFICATIONS & ACHIEVEMENTS

- R&D Excellence Award, Emerson R&D Global Awards — *Sep 2026*
- Professional Certificate Program in Blockchain, IIT Kanpur — *Aug 2023*