

DARSH THAKUR

+91 8920943401 | thakur.darsh13@gmail.com | daisentaur.dev | github.com/daisentaur

Education

Shiv Nadar Institute of Eminence, Greater Noida

Aug 2024 – May 2028

B.Tech, Electrical and Computer Science Engineering

Experience

AI/ML Engineering Intern — Siemens

Summer 2025

- Built an internal AI task-management tool (RAG + MCP) that auto-decomposes projects into granular subtasks with estimated human-hours.
- Engineered team-aware assignment logic factoring skill profiles, strengths, and workload capacity for balanced distribution.
- Scoped Slack/Jira integration for real-time syncing; designed the API and auth workflows before project handoff.

Tech Intern — WarpVelocity

2025

- Built an enterprise insurance-document analyzer (RAG + Flask API) for keyword querying of arbitrarily large policy documents at configurable detail levels.
- Engineered end-to-end ingestion: OCR extraction, tokenization, sandboxed validation for uncapped uploads, and context-aware retrieval via Streamlit.

Projects

Self-Hosted Linux Homelab — Personal Infrastructure

2024–Present

- Operate a multi-service Linux server over a Tailscale mesh: self-hosted automation and a file-to-Markdown service (OCR, dual login + API-key auth), with failure alerts pushed to mobile.
- Migrating personal site (daisentaur.dev) off GitHub Pages to self-host behind TLS.

The Paladin — Local-First Password Manager

Python | 2026

- Encrypts a single local vault file behind one master password — no cloud, no daemon, no browser. Published to PyPI (`pipx install basic-password-manager`) and actively maintained from real user feedback.

spider-base — Headless Browser Automation Framework

Playwright | 2026

- Built a Playwright automation base running 5 unattended bots (ERP scraping, attendance, course registration) on a self-hosted Linux homelab.
- Engineered resilience for unsupervised runs: screenshot-on-failure with mobile push alerts, stale-selector detection, and headless rendering-parity fixes.

GA-Based CPU Scheduling in xv6 — Research Paper

C, RISC-V | 2026

- Co-authored a paper on a genetic-algorithm non-preemptive scheduler in xv6; extended the kernel with custom system calls. GA beat SJF by 2.9% and SRTF by 6.3% on combined cost.

Multi-Mode USB Rubber Ducky — Embedded HID Attack Device

Embedded C, STM32 | 2025

- Developed a multi-payload HID device on STM32 with hardware buttons for payload switching (4–6 payloads) and force start/stop of keystroke injection.

Leadership & Activities

Core Coordinator — HackData 2026, National Hackathon (SNU)

2025–2026

- Ran a 24-hour national hackathon: 2,000+ registrations, 250 on-campus finalists across Hackathon, CP Duels, and CTF tracks; INR 3 lakh+ prize pool sponsored by HP. Student judge for the top 10 teams.

Co-Founder & Coordinator — Aeronautics Club (SNU)

2025–2026

- Founded the campus aeronautics club; led 3 RC-plane builds and ran KSP rocket-design events with audience-voted configurations.

Head of POCs — Cultural Committee (SNU)

2026–Present

- Primary liaison for 50+ clubs and societies: inter-club coordination, query resolution, and logistics for large-scale campus events.

Technical Skills

Languages: Python, C, Embedded C, JavaScript, MATLAB

Systems & Security: Linux administration, self-hosting, Tailscale, TLS, `/proc` parsing, OCR pipelines, token/login auth, local vault encryption, TLS/JA3, HID attacks, CompTIA Security+ (in progress)

AI/ML: RAG, MCP, LLM APIs, Scikit-learn, Optuna, Gradient Boosting, Genetic Algorithms

Tools & Infra: Git, Flask, Streamlit, Playwright, Tesseract OCR, STM32, xv6, self-hosted Linux homelab, PyPI/pipx, Jira, Slack API