

Tarun Pathak

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EDUCATION

Graphic Era Hill University

Bachelor of Technology in Computer Science — 8.56 CGPA

Haldwani, Uttarakhand

Aug. 2023 – June 2027

R.A.N Public School

Intermediate — 86% — High School — 92%

Rudrapur, Uttarakhand

2021 – 2023

EXPERIENCE

Technical Member

Tech Club

Aug. 2024 – May 2025

Graphic Era Hill University, Haldwani

- Co-managed technical events, coding contests, workshops, and hackathon operations.
- Contributed to Nirvan Tech Fest and Hackathon 2024, ensuring smooth technical execution.

PROJECTS

Mini-Redis-Cassandra | Python, Distributed Systems

Sep 2025 – Dec 2025

- Built a distributed in-memory key-value store with clustering, sharding (consistent hashing), and tunable consistency levels.
- Implemented gossip-based membership, Raft-lite leader election, read repair, and AOF-based persistence.

Mini-Docker | Python, Linux, Containers

Sep 2025 – Dec 2025

- Developed a container runtime from scratch using Linux namespaces and Cgroups v2 for process and resource isolation.
- Added security controls via Seccomp-BPF and capability dropping, with a CLI for container lifecycle management.

CodeCache — Network Package Caching System | Node.js, React

Oct 2025

- Designed a LAN-based package caching server reducing npm/PyPI installation latency by up to 70%.
- Built a React dashboard to visualize cache hits, bandwidth savings, and dependency usage.

SKILLS

- **Languages:** C, C++, Python, Java, JavaScript — **Web:** HTML, CSS, Node.js, Tailwind CSS
- **CS Fundamentals:** Data Structures & Algorithms, DBMS, Operating Systems, Computer Networks
- **Databases:** MySQL, MongoDB (Atlas)
- **Tools:** Git, GitHub, VS Code, Google Colab — **Soft Skills:** Problem Solving, Analytical Thinking, Team Collaboration, Communication

ACHIEVEMENTS

AI/ML Neural Nexus Challenge — Participant

May 2025

Graphic Era Hill University, Dehradun — Fake vs genuine comment classification using NLP (cleaning, tokenization, stopwords).

MCS — 2nd Runner-up

Aug. 2025

Graphic Era Hill University, Haldwani — Secured **3rd position** among 45+ participants (Senior Category).

Finalist — Nirvana Tech Fest 2.0 Hackathon

Oct. 2025

Graphic Era Hill University, Haldwani — Selected among **top 17 of 41 teams** after multiple evaluation rounds.