Abeer Miglani

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Summary

Second-year Electrical and Computer Engineering student seeking a Software Engineering internship. Builds systems software in C++, C, and Python, with hands-on work on network protocols, graph algorithms, and Rust performance extensions. Also open to Embedded Systems and Junior Developer roles.

Education

Shiv Nadar Institution of Eminence Aug. 2025 – May 2029
Bachelor of Technology in Electrical and Computer Engineering *Dadri, UP*

Experience

Summer Trainee GitHub | Jun. 2023
LOHUM Cleantech Pvt. Ltd. *Kasna, UP*

- Automated price collection for **9** lithium, nickel, and battery material products with Python and Selenium.
- Handled dynamically loaded pages with XPath selectors and explicit waits, and cleaned the data with Pandas.
- Generated an HTML dashboard from the scraped data to view and share prices in one place.

Projects

Ripple, Cascading Failure Simulator - *Rust, Python, React* GitHub | Sep. 2026

- Built solo at Manipal Hackathon 2026 to simulate failure spread across a synthetic **120-asset** city network.
- Made all-pairs shortest path **25x** faster with a parallel Rust extension on PyO3.
- Cut worst-case recommendation latency from **1.5 s to 190 ms**; each request runs up to 50 all-pairs passes.
- Built a Motter-Lai cascade engine and a recommender whose top verified fix prevents up to **91%** of failures.
- Added **300** pytest tests and GitHub Actions CI that checks the Rust and Python results match.

Redis-Style Server - *C++, POSIX Sockets, TCP* GitHub | Jul. 2026 – Present

- Building a Redis-style in-memory server from first principles in C++ on raw POSIX sockets.
- Designed a length-prefixed binary protocol that survives fragmented TCP reads, tested with **1,000** split requests.
- Benchmarked **25K requests per second** at **38** μ**s** median and **82** μ**s** p99 latency over 100K loopback round trips.

Technical Skills

Languages: C++, C, Python, SQL, TypeScript, HTML, CSS
Frameworks and Libraries: FastAPI, Flask, React, Celery, NetworkX, PyO3, Rayon, Pandas, NumPy, Selenium
Databases: PostgreSQL, PostGIS, Neo4j, Redis, MySQL
Developer Tools: Git, Docker, Docker Compose, GitHub Actions, pytest, VS Code
Core Areas: Systems Programming, Computer Networks, Data Structures, Algorithms

Problem Solving

- Solved 140+ data structures and algorithms problems on LeetCode, Codeforces, CodeChef, and HackerRank.
- Solved 3 of 4 problems in an intra-college competitive programming contest.