Niranjhan S.U

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Education

B.Tech in Computer Science with a Specialization in Cyber   Aug 2023 - Present
Shiv Nadar University Chennai, Semester I to III   CGPA: **8.5/10** ↗
Point of Contact for Cyber Security Vertical of Coding Club
Co - Founder of Team Edita, a Capture The Flag Team ↗

Projects

ScheduleMaker - Timetable Generator and Editor *(TypeScript, Next.js, Node.js)*   ↗
- Addressed college's manual timetable creation challenges by designing and implementing the **back-end** for an automated **timetable generator**. It also supports editing and Swapping of Lectures within generated timetables.
- Tackled complex scheduling constraints by developing a sophisticated **algorithm** that balances **faculty** availability, their class timming preferences, **lab slot preferences**, and incorporates **locking features** for fixed sessions.
- Integrated solution with Next.js frontend, successfully **reducing** timetable generation time by **more than 90%**.

Clox and Jlox - Lox Language Interpreters *(Java, Make, C)*   ↗
- Developed complete Lox language interpreters from scratch, implementing **Lexers, Parsers, and Compilers**.
- Successfully integrated advanced language features like **OOPS, Closures, lexical scoping, and recursion**.
- Conducted **low-level profiling** to identify bottlenecks and implemented optimizations, improving performance.

Fou - Terminal Text Editor *(C, Make)*   ↗
- Designed a **Vim-like terminal text editor** with comprehensive **undo/redo operations** and cursor **navigation**.
- Tackled performance challenges for large file editing by implementing an optional **piece table structure** as an alternative to traditional text storage methods which improved perormance by over 70% for such content.
- Maintained intuitive **multiple modes** for input and commands controlled by keyboard and mouse interaction.

Welt - Webnovel Viewer *(Android Studio, Flask, PyQt, BeautifulSoup)*   ↗
- Developed **cross-platform applications** to scrape web-novels using BeautifulSoup and store them to read offline.
- Created an interface specifically optimized for **long-form reading** with detection for downloading missing chapters, thus preserving content even when removed from original sources, and synchronization for reading progress.

Technical Skills

Languages: C, C++, Python, Java, Kotlin, TypeScript, Bash, Rust
Frameworks & Libraries: Flask, Django, PyQt, Express.js, Swing/AWT, Socket.io, Discord Bot APIs, Next.js
Technologies: Git, Make, Android Studio, GDB, Valgrind, SQLite, PostgreSQL, MongoDB, Firebase, Supabase
Certificates: Programming in Modern C++ (NPTEL) ↗ - Ranked in the **top 5%** of Course Takers. Gained expertise in **C++ 23**, including smart pointers, inline functions, meta programming, and advanced OOPS concepts.

Awards and Experience

Event Management and Volunteering   *Aug 2023 - Present*
- Volunteered to **organized and host** Cryptic Cadavers, a Capture The Flag challenge at Invente 2024 with the Coding Club. Designed challenges in cryptography, web exploitation, reverse engineering, and more, while mentoring participants throughout the event and documenting progress and scores for fair a competition.
- **Conducted EditaCTF 2.0** with Edita and the Coding Club, to introduce students to Capture The Flag Competitions. Recieved a turnover of a 100+ participants and 40+ teams across first, second and third years of the University. **Created** beginner-friendly problems and provided **writeups** for all challenges for post-event learning.

Top 1% Global Ranking, and **more than 100 Rooms solved** on TryHackMe ↗   *TryHackMe*
Top 11% Ranking with a Rating of 1719 and more than 600 problems solved on LeetCode ↗   *LeetCode*
Hackathon Finalist - Envithon 2024 (SNU Hackathon), Devhouse 2025 (VITC Hackathon)   *2024 - 2025*
Hackathons Participated - SIH 2024, PEC Hacks 2024, Khacks 2025, IndustriAI 2025   *2024 - 2025*
Completed all the Challenges in Advent of Code 2024 ↗   *Advent of Code*