

# Niranjhan SU

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## Education

### B.Tech in Computer Science with a Specialization in Cyber Security

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 timing 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 performance 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

### Contributor - Ankidroid

Apr 2025 - Present

- Fixed memory leaks within the Android application located in page fragments and TTS Engine, **improving app stability**. Rewrote code to remove a **deprecated annotation** to align the codebase with modern standards.
- Gained hands-on experience in large-scale open-source project with 1M+ users and 1000s of contributors.

### Event Management and Volunteering - Capture The Flag (CTF)

Aug 2023 - Present

- Co-organized and hosted** multiple CTF events, including **EditaCTF 2.0**, which reached 100+ participants.
- Designed and deployed many challenges across fields like cryptography, web exploitation, and reverse engineering.

**Top 1% Global Ranking**, and **more than 100 Rooms solved** on TryHackMe

TryHackMe

**Contest Knight** with a Rating of **1853** and more than 600 problems solved on LeetCode

LeetCode

**Hackathon Finalist** - Envithon 2024 (SNU Hackathon), Devhouse 2025 (VITC Hackathon)

2024 - 2025

**Completed all the Challenges** in Advent of Code 2024

Advent of Code