Ankush Kapoor

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EDUCATION

Vidyalankar Institute of Technology   **Mumbai, India**
Bachelor of Technology in Computer Engineering   *Sept 2024 – Present*

First Year - CGPA: **10.0**   *Second Year, currently ongoing*

Seth Hirachand Mutha School (CBSE Board)   **Kalyan, India**
Class XII - **86%**   *2024*
Class X - **91%**   *2022*

EXPERIENCE

Open World Holidays Framework (Open Source Contributor)   Jan 2025 – June 2025
Python Framework   *Remote — PRs*

- Ranked **7th out of 2300+ contributors** nationally in Google Winter of Code (WoC) 2024.
- Added public holidays for **India**, **Nepal**, and **Mongolia**, covering fixed-date, variable-date, and lunar calendar-based rules.
- Implemented **Hindi** and **Mongolian** translations to improve localization and accessibility.
- Wrote and maintained comprehensive **unit tests** to validate dynamic holiday calculations.
- Contributed to a large-scale **Python-based database** and participated in detailed code reviews.
- Technologies: **Python**, **Git**, **GitHub**, **Data Processing**, **Open Source Collaboration**

PROJECTS

KapoorVM (Custom Virtual Machine in C) | *C, Linux, GCC, Git*   GitHub
- Built a 16-bit virtual CPU with a custom instruction set and 65 KB of virtual memory.
- Implemented basic opcodes to move immediate values into registers and run a test program.
- Designed modular VM components for clean separation of CPU, memory, and instruction handling.

Alloc (Custom Memory Allocator in C) | *C, Linux, NASM, GCC*   GitHub
- Created a 32-bit allocator mimicking `malloc()` and `free()` over a 1 GB virtual heap.
- Implemented `alloc(bytes)` to allocate memory in words by taking size in bytes as input.
- Added `destroy()` for secure deallocation with memory zeroing to prevent data leakage.
- Built packed headers, manual tracking, macros for KB/MB/GB allocation, and a `show()` debugger.

CodeNexus (Custom Code Editor in Python) | *Python, PyQt5, QScintilla, Jedi*   GitHub
- Developed a tab-based code editor with syntax highlighting, file explorer, and autocomplete.
- Implemented a threaded **AutoCompleter** using **jedi** and a custom **QsciLexer**.
- Enabled one-click code execution via **subprocess** in CMD.
- Integrated file actions with **QTreeView** and added keyboard shortcuts.

Email Unsubscriber (Inbox Automation Tool) | *Python, IMAP, SMTP, BeautifulSoup, requests*   GitHub
- Automated email unsubscription by scanning Gmail inbox via IMAP and locating unsubscribe links.
- Parsed links using **BeautifulSoup** and text-matching logic.
- Visited each link via **requests** and logged success/failure locally.
- Used `dotenv` to securely manage credentials.

TECHNICAL SKILLS

Languages: Python, C, Java, MySQL, HTML, CSS
Tools & Environments: Git, GitHub, Linux (Ubuntu/WSL, VirtualBox), VS Code, Neovim, tmux, IntelliJ IDEA
Frameworks: Tailwind CSS