

# Ankush Kapoor

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## EDUCATION

**Vidyalankar Institute of Technology**  
*Bachelor of Technology in Computer Engineering*  
*First Year - CGPA: 10.0*  
**Seth Hirachand Mutha School (CBSE Board)**  
*Class XII - 86%*  
*Class X - 91%*

**Mumbai, India**  
*Sept 2024 – Present*  
*Second Year, currently ongoing*  
**Kalyan, India**  
*2024*  
*2022*

## EXPERIENCE

**Open World Holidays Framework (Open Source Contributor)** Jan 2025 – Present  
*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