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, Thane

Class XII - **86%**

2024

Class X - 91%

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

 $\underline{\text{GitHub}}$

- 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