Viraj Bhartiya

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EDUCATION

K.J. Somaiya College of Engineering   **(GPA: 8.86/10)**
B.Tech Computer Engineering   **Sep 2027**

Vidyadham Jr. College
Secondary Education   **July 2021 - June 2023**

Cambridge School ICSE
Primary Education   **July 2011 - June 2021**

EXPERIENCE

KJSCE CodeCell

Tech Team   **November 2023 – Current**

• Developed a responsive website for Debating Society, Voices of Somaiya Vidyavihar University and a futuristic website for Tech Fest - KJSCE DevOpia

• Conducted a workshop on competitive programming where participants we taught basics of C++ and algorithms used in competitive programming

PROJECT EXPERIENCE

Spam Email Detection

Natural Language Processing   **July 2023**

• Developed effective solutions for detecting spam emails by leveraging machine learning techniques, including Natural Language Processing and the Multinomial Naive Bayes algorithm.

• Ensured the security and efficiency of email communication through email spam detection.

SciOps

Scientific Calculator in Rust   **November 2023**

• A robust scientific calculator, implementing core functionalities such as arithmetic operations such as trigonometric, logarithmic and hyperbolic functions. Leveraged Rust for optimal performance and accuracy, enabling interactive multi-computation calculations from the command line. Mitigated 64-bit floating-point arithmetic challenges such as decimal rounding errors for enhanced precision.

Catalyst

Home automation via Reverse Engineering   **December 2023**

• Conducted reverse engineering of the SSDP and UDP protocols utilized by Belkin's WeMo plug, enabling the emulation of said protocols through a Raspberry Pi. Implemented this emulation to establish seamless communication between Amazon Alexa and Apple's HomeKit platforms, facilitating centralized control over room electrical switches.

Stock Trader Bot

Algorithmic Trading Strategies   **August 2023**

• Developed a trading bot that sends buy/sell signals to Zerodha API based on predictions made use RSI, MACD, EMA, SMA indicator calculations done using historic data. The Bot could generate a profit of 8.73% within 12 trading sessions

Alien

Virtual Screen Sharing over LAN via WebRTC   **May 2023**

• Alien, powered by cutting-edge technologies such as WebRTC, ElectronJS, and ReactJS, innovatively transformed web browser-equipped devices into secondary computer screens

• Offered flexible screen mirroring and multitasking capabilities, seamlessly integrated with Virtual Display Adapter, and functioned as a tablet or smartphone teleprompter through the unique Flip Screen Mode, elevating screen utility and productivity.

Lucid

Text to image generation | OPENAI's CLIP Model   **October 2022**

• Developed text-to-image generation utilities using OpenAI's CLIP model, which involved generating images from textual descriptions or existing images

• It created videos from textual inputs and produced music videos from song lyrics as part of the project

Riverto

Music streaming and download app   **September 2021**

• Used flutter to build a cutting-edge music streaming and download application

• Involved reverse engineering to connect with the Saavan.com API, which granted users access to an extensive music catalogue.

Maple

Free E-book provider   **May 2020**

• Facilitated access to an extensive collection of best-selling eBooks, all obtained at no expense through the Feedbooks API

• Engineered functionalities for downloading, bookmarking, and sharing books among users

• Built the application using Flutter and Firebase technologies

Flappy Bird AI

Self-Playing Flappy Bird via Reinforcement Learning   **May 2021**

• Designed an autonomous Flappy Bird player through Reinforcement Learning, allowing it to learn the game on its own

• Developed and implemented the project using the P5.js framework within the Processing environment

Face Recognition Attendance System

OpenCV Image Processing   **February 2021**

• Face recognition system which can be used at an organisation of any level for logging the attendance of their employees at a glance

• Optimised to run on a RaspberryPi

Medco

Medicine reminder app   **January 2020**

• Designed and developed a medication reminder app, allowing users to set medication schedules and receive timely notifications to prevent missed doses

• Utilized Flutter and integrated SQL for efficient data management

Organic Bliss

Freelance web development project   **April 2022**

• Developed a comprehensive product catalogue website with the goal of showcasing an extensive range of products

• Utilized HTML, CSS, and JavaScript to design and build the platform, ensuring an interactive and user-friendly experience for visitors

Informal Eats

Recipe suggestion app   **April 2020**

• Designed an application that enabled users to input available ingredients and generated curated blog links featuring recipes that utilized those items

• Developed the application using Flutter and integrated it with the Edamam API to enhance its functionality

SKILLS & INTERESTS

Technical: Flutter, React Native, ReactJS, Python, AppScript, Firebase, MongoDB, NodeJS, AppScript, PostgresSQL

Languages: English, Hindi, Marathi

Interests: Web Development, Android, iOS, WearOS

CERTIFICATIONS

Ethical Hacking and Cybersecurity, IIT Bombay   **September 2023**

• OSINT (Open Source Intelligence), Network Scanning, Enumeration Techniques, SQL Injection, Cross-Site Scripting, Web Application Security