Ruchika Shirsath



# Education

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**Veermata Jijabai Technological Institute 2021 – 2025**

*B.Tech in Information Technology Mumbai, India*

**CGPA** - **9.205**

**Bhavani Shankar Junior College 2019 – 2021**

*HSC****: 93.6%*** *, MHTCET****: 99.7989 percentile*** *Mumbai, India*

# Relevant Coursework

* Data Structures
* Algorithm Analysis
* Operating Systems

# Projects

* Computer Organization and Architecture
* Database Management
* Linear Algebra
* Discrete Mathematics
* Java
* C++

[**Intelligent Navigesture**](https://github.com/Dhruv-Sapra/Intelligent-Navigesture/branches)*|* OpenCV , HTML ,CSS , JS , React , DOM **Oct 22 – Feb 23**

* + Utilizing OpenCV’s computer vision algorithms to accurately interpret user gestures, enabling actions like clicking, scrolling, tapping, and drawing.
  + Incorporating modern UI/UX paradigms with HTML, CSS, JS, and React, creating an adaptive and immersive gesture-based browsing experience.
  + Iteratively refining gesture recognition models and optimizing frontend performance to deliver a user-friendly, hands-free web interface.

[**QR-Face Attendance System**](https://github.com/Ruchika-2003/HyperHack)*|* OpenCV,DBMS,HTML,CSS,JS,Flask **Dec 2022 – Feb 2023**

* + Spearheaded the development of a sophisticated web-based attendance system incorporating multi-factor authentication via QR code scanning and face detection mechanisms.
  + Leveraged OpenCV for implementing cutting-edge face detection algorithms, while employing HTML, CSS, JS, and Flask for seamless front-end design and back-end functionality.
  + Orchestrated the integration of a robust Database Management system to securely store attendance records, enabling efficient data retrieval and analysis.
  + Demonstrated a keen focus on accuracy, efficiency, and user experience, crafting an intuitive interface that ensures precise attendance tracking while upholding stringent security standards through the two-step verification process.

[**The Assist Bot**](https://github.com/Ruchika-2003/The_Assist_Bot)*|* Python , Tkinter , Speech to text , Text to speech recognition **Dec 2022 – Jan 2023**

* + Developed an interactive Python bot using Tkinter, Speech-to-Text, and Text-to-Speech for seamless user interactions. Performs basic tasks based on voice commands, enhancing user experience through multi-modal interaction.
  + Implemented Python-based bot with STT and TTS integration, enabling natural language conversations and audible responses.
  + The Assist Bot’s Tkinter-based GUI provides a user-friendly interface, while voice input and output capabilities optimize user interactions and task execution.

# Research Experience

**Software Plagiarism Detection Tool May 2023 – Ongoing**

*C,C++,Python,Gumtree,CSmith,MOSS IIT Bombay*

* + This project is under the guidance of **Dr. Uday Khedker**, It involves developing a software plagiarism detection tool using Python, featuring Abstract Syntax Trees (AST) for precise structural similarity analysis. Integrated Gumtree for visualizing AST changes, and streamlining plagiarism assessment.
  + This tool employs AST-based algorithms for comparing software programs in C++ and provides visual insights into code similarities through Gumtree integration.

# Achievements

**VJTI Centenary TechHackathon Dec 2022 – Feb 2023**

Secured **Rank 2** in the Infrastructure domain in the hacakathon

* + *Developed an advanced attendance system, integrating QR code and Face detection technologies, impressing during college evaluation, and showcasing its potential for real-world deployment within the college ecosystem*

# Technical Skills

**Courses Taken:** Front End Web Development by **Angela Yu**, Machine Learning : Regression and Classification by **Andrew Ng by DeepLearning.AI and Stanford University** , Neural Networks and Deep Learning by **Andrew Ng**

**Languages:** Python, Java, C, C++, MySQL

**Web Developer Tools:** HTML, CSS, Javascript,Bootstrap

**Technologies/Frameworks:** Linux, GitHub

**Domains Explored:** Machine Learning ,Deep Learning,Web Development

# Mentorship Roles

* **COC TechTrek Domain Expedition:** Conducted Introductory Workshop for 150+ juniors for domain exploration and getting them started with specific domain of their choice with me handling **Web Development** section
* **COC C++ Workshop :** Mentored 100+ juniors in C++ programming, delivering comprehensive introductory sessions to initiate their journey in software development.

# Co-Curricular Activities

* Among the **Top 5%** students in **Information Technology** Department at VJTI with an academic **CGPA** of

**9.205/10**.

* Secured Rank **134** (out of 152k) and Rank **11** among girls and got **99.7989** percentile in MHT-CET examination- an engineering entrance exam conducted throughout Maharashtra.

# Positions of Responsibility

* Class Representative of the IT Branch for FY, SY,TY 2022 , 2023 and 2024.
* Department Head Of I.T. in Technovanza VJTI.
* Execution and Digital Sector Representative at Pratibimb VJTI.
* Front End Web Developer at Enactus VJTI.
* Member of the Community of Coders,VJTI.
* Part of Web Development team for developing the VJTI Website
* Member of Multi Organ Harvesting Aid Network(MOHAN) foundation for raising awareness about organ donation and contributing into social cause