



Pratham Bhonge

Bachelor of Engineering
in **Computer Science**

Masters of Science
in **Mathematics**

Birla Institute of Technology and Science, Pilani '26

+91-9886989159
f20212168@goa.bits-pilani.ac.in

GitHub | Website

LinkedIn

TECHNICAL SKILLS

- **Programming Languages:** C/C++, Python, Java, Assembly, Verilog, Javascript, Prolog, Kotlin, latex
- **Skills:** Machine Learning, LLMs, Full-Stack Development, Smart Contracts
- **Databases:** PostgreSQL, MongoDB, Firebase
- **Key Courses:** DSA, OOPs, Artificial Intelligence, Machine Learning, Operating Systems, Computer Architecture, Microprocessors and Interfacing, Digital Design, Applied Statistical Methods, Graphs and Networks, Game Theory

WORK EXPERIENCE

- **Clappit.ai** May 2024 – July 2024
Internship - Software Engineer Remote
 - Developed a **Retrieval-Augmented Generation (RAG)** framework enabling clients to access unstructured data using natural language.
 - Implemented custom conversation flows with **RASA**.
 - Fine-tuned open-source LLMs such as **Llama-13B and Mistral**, and optimized language model prompts using the DSPy framework.
 - Deployed in production a complete RAG application on EC2 instance for clients.
- **Goavega Software** May 2023 – July 2023
Internship - Software Engineer Bangalore, KA
 - Designed and developed an interactive **generative AI** chatbot using **Python, LangChain, and OpenAI's GPT-4**.
 - Created a **versatile API** for seamless chatbot integration with any dataset, delivering a complete end-to-end solution.
 - Built a module to **dynamically convert raw CSV data** into a **structured PostgreSQL database** with multiple tables and relationships.
- **Profinch** July 2023 – Aug 2023
Internship - Software Engineer Remote
 - Developed **custom banking components** using the **Angular web framework** for clients, leveraging the **Autumverse low-code platform**.
 - Implemented **algorithms and data structures**, including **graph traversal and dynamic programming**, to build and configure **widgets**.

PROJECTS

- **Indian Classical Music Classifier under Dr. Himadri Mukherjee** May 2023 - present
Python, Tensorflow, Basic Pitch, Numpy, Pandas Github
 - Developed a **machine learning model for raag detection** from user-sung melodies, utilizing **advanced signal processing techniques** including **Short- Time Fourier Transform (STFT)** and **Mel-Frequency Cepstral Coefficients (MFCCs)** for precise waveform analysis.
 - Integrated and extended **Spotify's Audio Intelligence Lab Basic Pitch Module** to enhance the robustness of the detection system.
 - A **Design Patent** is filed based on this innovative work.
- **Drone Automation** Jan 2023 - July 2023
Computer Vision, OpenCV, RaspberryPi, Gazebo, Dronekit Github
 - Designed and developed a **fully autonomous drone** for navigation between points A and B.
 - Employed **OpenCV** for **obstacle detection** and implemented a **path planning algorithm**.
 - Simulated performance in **Gazebo** and deployed using **DroneKit**, integrating with a **Raspberry Pi and Pixhawk** flight computer.
- **zkDoc - Web3 based Health Records App** Dec 2022
Javascript, Solidity, React, MongoDB, NFTs Github
 - Developed a **full-stack web application** with **MongoDB** backend and **React** frontend.
 - Implemented innovative patient visit **NFTs** utilizing **Solidity smart contracts** to enhance healthcare data security and transparency.
 - Simplified **Metamask** account creation with phone OTP verification.

PATENTS

- **Design Patent**, Indian Classical Music Recognition Tool || **Filing date:** Aug 8, 2024 | **Issue date:** Yet to be issued

EXTRA CURRICULAR ACTIVITIES

- **Hackathons**, **ETHIndia Hackathon**, Dec 2 - 4, 2022 || **AFourathon 3.0 Hackathon**, Aug 2023
- **Competitive Coding**, 1300 rated on **codeforces** || Qualified for **Zonal Computing Olympiad (ZCO)** in 2017

POSITIONS OF RESPONSIBILITY

- **Spree Head**, Dept. Of Media and Coverage, Successfully managed a **department of 150 students** and coordinated with brands like **MTV, NBA, FilterCopy, and Chess.com** for **Spree24**.
- **Media and PR Head**, Sandbox Committee, A **student run lab** with a yearly **operating budget of 50 lakhs**