

# ABHAY TRIPATHI

Second Year Student (B.Tech. CSE 2021-25)

- ❖ 4+ years of **Software Engineering** experience in the form of **practical projects, professional experience** (Projects and Professional Experience are **mentioned on next page**) and **data structures and algorithms problem solving**. Currently learning **C++**. Major skills exposure:  
\* **Java** \* **Python** \* **C** \* **C#**
- ❖ 3+ years of **Full Stack Web Development** Experience (Developed and maintaining 2 Live **Websites** including the portfolio website, 2 Live **PWAs** and have done an **internship** for development of a **Web Portal** till date) in both **Front-End Technologies** and **Back-End technologies**. Proficient in **LAMP Stack (Linux, Apache, MySQL and PHP)**. Currently learning **NodeJS (Express Framework)** to become proficient in **MERN Stack**. Major skills exposure:  
Front-End:  
\* **HTML, CSS** \* **JavaScript, TypeScript** \* **React.js Framework** \* **Bootstrap Framework**  
\* **jQuery Framework** \* **REST APIs** \* **PWAs**  
Back-End:  
\* **Apache, NGINX** \* **Python Flask Framework** \* **PHP** \* **CGI (Python)** \* **Web Sockets** \* **REST APIs**  
\* **FastAPI Framework**
- ❖ 3+ years of **Native Android App Development** Experience (Developed 4 **Phone Apps** and 1 **App for both Phone and Android TV** till date and maintaining 1 Live App on **Play Store**). Major skills exposure:  
\* **Android Java SDK** \* **Android UI Layouts XML**
- ❖ 3+ years of **Database Management** Experience (Developed 2 **Full-Stack Projects** and worked on 1 **Full-Stack Project** as an **intern** till date). Major skills exposure:  
\* **MySQL (SQL)** \* **MariaDB (SQL)** \* **MongoDB (NoSQL)** \* **Firebase Realtime Database (Google Cloud)**
- ❖ 2+ years of **Cloud Hosting** Experience (Currently hosting and maintaining 1 **AWS EC2 Instance** under the limits of Free Tier which hosts 1 **Full-Stack Project**). Major skills exposure:  
\* **AWS EC2 Instance Hosting** \* **Google Cloud Functions** \* **Heroku Web App Hosting**
- ❖ 1 year of **Virtual Reality (VR) App Development** Experience (Made 2 **VR Apps** till date). Apps tested in **Oculus Quest** and **Quest 2 Headsets**. Major skills exposure:  
\* **Unity Game Engine** \* **Oculus SDK**
- ❖ Developed a small **custom protocol server** using **TCP** in **C**, and the **client app** for the same in **Java**. Have worked with **Web Sockets** also for some small projects.
- ❖ Have practical knowledge of **cryptography** with project-based experience of **hashing algorithms** like **SHA-256, MD5**, etc. Have used hashing for "**salting**" while developing authentication systems.
- ❖ Created a new **Hybrid Encryption/Decryption Algorithm** (Modified **RSA** for the **asymmetric** encryption/decryption part and created own algorithm for the **symmetric** encryption/decryption part). Made **modules** for usage of the algorithm in **Java, Python and JavaScript**.  
(GitHub Link for Java Module: <https://github.com/abhaytr/JMulticrypt>)  
(Link for Online Demo: <https://abhaytr.github.io/multicrypt>)
- ❖ Developed various **PC UI Apps** in **Java** and **Python**. Major skills exposure:  
\* **Java Swing Framework** \* **Python TKinter Framework**
- ❖ Developed various **modules/packages** for various functionalities in **Java, Python, JavaScript and C**. All of them are **open source** and are available on **GitHub**.  
(**Python modules** available on **PyPi** also)  
(**PyPi Profile**: <https://pypi.org/user/AbhayTr>) (**GitHub Profile**: <https://github.com/AbhayTr>)
- ❖ **HackerRank: 5★ 30 Days of Code Badge, 4★ Problem Solving Badge.**

## PROFESSIONAL EXPERIENCE

Jan-2023 –  
Mar-2023

Manipal University Jaipur,  
Full Stack Web Developer (Internship)

Jaipur (India)

- Worked on the development of the **HR-Employee Appraisal Web Portal** which will be used to conduct the **appraisal process** of the employees in **Manipal University Jaipur**.
- Used **ReactJS** for the **front end** of the **web portal**, **Python (Uvicorn)** and **Rest APIs (FastAPI)** to power the **back end** of the **web portal** and **MongoDB** as the **database** for the **Web Portal**.
- Made the **Web Portal highly secure** by **patching critical security loop holes**.
- **Re-Organized** the **Tech Stack** to make the **Web Portal highly fast** and **more efficient**.

## SOME MAJOR PROJECTS (PROJECT BASED EXPERIENCE)

### QueueScan

- An **app** through which virtual queues can be started anywhere with any QR code. Completely anonymous queues with no registration/KYC. Perfect solution for crowd management during times like Covid.
- Technologies Used: **Android SDK (for Android App)**, **HTML**, **CSS**, **JS for Frontend PWA**, **PHP for Backend of PWA**, **Firebase Realtime Database** for the Database.
- **Play Store** Link: <https://play.google.com/store/apps/details?id=com.tw.qscan>,  
**PWA** Link: <https://queuescan.com>.

### DigiFriend

- DigiFriend is your virtual friend which makes your phone feel like any modern-day smart device (Amazon Alexa, Google Home, etc.). Just open the app, and keep talking with it without pressing any buttons!
- Technologies Used: **Android SDK (for Android App)**, **Android TTS (Text to Speech) Service** for Voice Input from the app user, **AWS EC2 instance** to **host the app**, **NGINX** and **Python Flask Framework** for the **Backend**, **MySQL** for the database.
- To know more about the app and to try the app, please visit <https://abhaytr.github.io/digifriend>.

### TeleOperation (TeleSurgery)

- **VR App** which is made to demonstrate the Proof of Concept of TeleOperation. The concept of TeleOperation is ideated and developed by Mr. Akshet Patel (LinkedIn: <https://www.linkedin.com/in/akshetpatel/>). The concept of TeleOperation is basically the ability to control physical mechanical devices such as a robotic arm virtually in real time using remote technologies such as a VR App.
- Technologies Used: **Unity Game Engine** and **Oculus SDK (C#)** for the **VR App**. Deployed the **app** to **Oculus Quest** and **Quest 2 Headsets**.
- To know more about the concept, please visit <https://github.com/AbhayTr/TeleSurgery-A-Proof-of-Concept>. To see the demonstration of the VR App, please watch <https://www.youtube.com/watch?v=65jHtXySaQw>.

To see all projects, please visit the GitHub Page (<https://github.com/abhaytr>).

## ACADEMIC QUALIFICATION

**Second Year Student** of “Bachelor of Technology” (**B.Tech.**) degree in “Computer Science and Engineering” (**CSE**), pursuing from **MUJ** (Manipal University Jaipur), Rajasthan (INDIA) from **2021 to 2025**. **CGPA (Grade)** till date: **7.76 / 10**.

## PROFESSIONAL CONTACT DETAILS

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