

Tirthraj Mahajan

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Summary

A passionate software engineer specializing in Full Stack Web Development, driven by attention to detail and dedicated to building robust, scalable systems, while actively seeking opportunities to contribute to organizational success and continuously learning and adapting to new technologies.

Skills

Core Competencies :

JavaScript · Next JS · NodeJS / Express JS · Python · Flask · MySQL · PostgreSQL · Supabase · Firebase · CSS · Bootstrap/Tailwind/Shadcn · Git · GitHub · C++ · Java · JDBC · Docker · AWS

Fundamentals :

Backend Development · Database [DBMS] · Data Structures and Algorithms · Object Oriented Programming [OOP] · Distributed Systems · Cybersecurity

Extras :

REST APIs · GraphQL · gRPC · Web-Sockets · API Integration & Security · Postman · Software Deployment · Software Design

Major Projects

Scalp Smart : S.E Project

PICT

Scalp Smart is a platform designed to predict baldness stages using AI and computer vision technologies. It analyzes images uploaded by users and provides predictions ranging from Normal to various stages of baldness.

Responsible for designing the Backend, Frontend and Database

Skills : Flask, Firebase, SQL, JavaScript, HTML, CSS, Bootstrap

- Achievement : 2nd Runner-up in PICT's Impetus and Concepts
- GitHub : <https://github.com/tirthraj07/ScalpSmart>
- Website: <http://scalpsmart.onrender.com/>

Local Shrinks : Hackathon Project

PICT

Created a platform or app that provides accessible and effective mental health support, including real-time counseling, stress management tools, and mood tracking.

We developed a chatbot and a question-based algorithm for diagnosing Depression and Anxiety.

Responsible for Backend, Frontend and Database

Skills: Next JS, Firebase, Tailwind CSS

- Achievement : 1st Runner-up at PICT's 36 Hour Hackathon – Techfiesta
- GitHub : <https://github.com/tirthraj07/Local-Shrinks>
- Website: <https://techfiesta-web.vercel.app/>

Bank App

Created a web application to allow secure file upload and storage and allow registration of complaints. Additionally include complaint classification, summarization and monitoring.

Skills : Next JS, Node JS + Express JS, Supabase, Shadcn UI, Web Sockets

- Implementation of auth and secure file upload with prominent algorithms like RSA, AES and Scrypt
- GitHub : <https://github.com/tirthraj07/Bank-App>

C++ Micro Web Framework

Created a web framework from scratch using Socket Programming in C++.

Utilized Windows Socket API (Winsock2) for network communication

Skills : C++ and Network Programming

- Express / Flask like framework which supports all HTTP requests
- Fast routing utilizing AVL Trees and rapid rendering
- Supports middleware chaining and SQLite Database connectivity and much more

GitHub: <https://github.com/tirthraj07/CPP-Web-Server/>

All Projects can be found at <https://tirthraj07.onrender.com/projects/>

Experience

Persistent Systems Mentorship Program

June 2024 – August 2024

- Created an employee pre-onboarding project that lets users upload necessary documents and details essential for post-onboarding processes
- Additionally included security groups for permission based access control
- GitHub : <https://github.com/tirthraj07/persistent-onboarding>

PICT Inhouse Project : Virtual Lab for DELD

February 2024 – April 2024

- Created a website that lets students visualize the lab practical easily and learn theory behind them
- GitHub: <https://github.com/tirthraj07/DeldVirtualLab>

AWS Cloud Club PICT : Technical Team

April 2024 - Present

Education

Pune Institute of Computer Technology

B.E Computer Engineering : 2026

- Affiliation to Savitribai Phule Pune University
- CGPA : 9.5

Sir Parshurambhau College

Higher Secondary Education : 2022

- HSC Board : 92.83%
- Maharashtra Common Entrance Test : 99.68%ile
- Rank 2 (Overall) and Rank 1 (Computer Science) in SP College

SPM English School

Secondary Education : 2020

- SSC Board: 92.60%

Achievements

- PICT's 36 Hour International Hackathon, Techfiesta : 1st Runner-up for Local Shrinks
- PICT's Flagship Event, Impetus and Concepts : 2nd Runner-up for Scalp Smart
- PICT ACM Student Chapter's Event, Pulzion : Winner in 3 events (Web N App,Hire Hustle,Dexterous)

Additional

Research Papers:

- Secure encryption of documents and Smart Complaint management for Banking Applications

Blogs:

- [Introduction to Microservice Architecture](#)
- [Introduction to Database Clustering using PostgreSQL, Docker and Pgpool-II](#)
- [Deploying a Node JS Application on EC2 Step by Step](#)

Courses:

- The Ultimate 2024 Fullstack Web Development Bootcamp : Udemy
- Fundamentals in Cybersecurity : Harvard's CS50