Rigved Waradpande

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3rd year B. Tech in Computer Science student at Manipal Institute of Technology interested in software engineering and cyber security.

EDUCATION

B.Tech. in Computer Science - Manipal Institute of Technology, Manipal *GPA: 7.27/10.0* ***Aug 2022 – Present***

SKILLS

Languages: Python, Java, SQL, C, Embedded C, C++

Courses: Data Structures and Algorithms, Database Systems, Object Oriented Programming, Digital System Design, Formal Language and Automata Theory, Computer Architecture, Embedded Systems

Certifications: Diabetic Retinopathy Detection using Artificial Intelligence

COMPETITIONS

Manipal Hackathon 2023

Utilized Machine Learning models and APIs to develop an X-Ray explainer platform - ranked top 6 out of 150+

- Developed a software for extracting useful features from X-rays and CT scans as part of Manipal Hackathon 2024. Presented the same to a panel of experts from academia to be ranked top 6 out of 150+ teams.
- Used Grad-CAM to create heatmaps and severity maps for X-rays and used CLAHE for preprocessing certain types of X-rays upon consultation with radiologists.

Capture the Flag (CTF) Cryptography Challenges

Participated in multiple CTF challenges, ranking 3rd nationally in the Feb 2024 edition of the CTFTime rankings

- Actively participate in CTFs hosted every weekend, focusing on Cryptography-related challenges.
- Won first place in BITSCTF 2024, and under the top 15 nationally in CSAW 2023 (hosted by NYU).
- Actively participated in organizing and hosting NiteCTF 2023. Created and deployed a challenge in Cryptography in the same.

PROJECTS

Encrypting and Decrypting a Binary Sequence Using User Input [GitHub]

Utilized Verilog programming to simulate a digital system to symmetrically encrypt or decrypt a binary sequence

- Took user input to decide the process about to happen in the system, emulating electrical circuits inside a machine.
- Used Verilog programming to simulate the electrical circuit, along with GTKWave to analyze the behavior of the circuit for different combinations of electrical impulses.

Character Creation Game in Java [Github]

Created a mini-game to make your character using Java

- Used concepts of Object Oriented Programming to create a character and display a turn-based battle against an enemy of your choice.
- Used Java for the back-end and JavaFX to create the graphics of the program. Used sprite sheets to animate pixelated characters and embedded appropriate music in the game.

Personal Shell [GitHub]

Created a POSIX-compliant shell to parse built-in and pre-built commands and arguments

- Implemented using a REPL (Read-Eval-Print Loop), which allows the program to wait for user input, evaluate commands and print appropriate output until the user enters 'exit 0'.
- Supports built-ins such as echo, type and exit, and any other program located at a valid location in the system.

Mobile Reminder App (DBMS)

Creating a reminder app to gamify your responsibilities

- Created a reminder app as my end semester DMBS project.
- Implemented CRUD operations with a clean UI, using express for connecting DB and frontend.
- Used React Native for the application interface and SQLite for the database

ACTIVITIES

Cryptonite, Manipal University ***Mar 2023 - Present***

- Regularly participate in CTFs and organize the same every year as our flagship event.

TEDxMAHE ***Mar 2023 - Present***

- Worked in the Finance and Sponsorship department and actively participated in getting sponsorship for the TEDx event

Astronomy Club ***Oct 2023 - Present***

- Regularly engaged in astrophotography and revitalized the Astrophotography Podcast