




MADHAV KUMAR

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EDUCATION

Indian Institute of Technology Delhi

B.Tech. - Major in Engineering Physics, Minor in Computer Science and Engineering

New Delhi, Delhi

2020 – Present

Coast Guard Public School

High School

Daman

2020

PROJECTS

X-Hall: Chatroom

Feb-April 2023

github.com/madhav-mknc/x-hall

- Used **TCP Sockets** in Python for creating a network infrastructure.
- Used **Multi-threading** for achieving the concurrency in the program.
- Implemented **P2P Networking**; Command Line Interface.

Links Crawler

January 2022

github.com/madhav-mknc/links-crawler

- A **Web Crawler** that fetches all the URL links found on a given URL and then recursively scrapes all the data.
- It was initially created for collecting data for training **ML models**.
- Used **requests** and **BeautifulSoup** libraries of Python.

Delta (Voice of LLM)

May-June 2023

github.com/madhav-mknc/delta-LLM

- Developed a **Virtual Assistant** to convert a spoken command to text using **Google-translate API** package for interacting with the **LLM models** like OpenAI's GPT3/3.5/4 models.
- Written in Python and used the **LangChain** framework and the **Hugging face APIs**.

Network Crawler

December 2022

github.com/madhav-mknc/network-crawler

- Developed a **host discovery** program which when provided a Network Address can crawl the whole network and Scan for the active hosts in the network.
- Used **Socket** Library in Python and also Implemented **Scapy** framework for an alternative version.

Who-Is-Online

Mar-present 2023

github.com/madhav-mknc/who-is-online

- Built a **chrome extension** that aims to create a hub for chrome users where users can interact with the other users accessing the same site as them, and can also join a mapped discord server/channel directly.
- Written in Javascript and Python, used Python **Discord API** and **Flask**.

Eye-PERS

May 2023

github.com/madhav-mknc/eye-pers

- Created a recommendation engine for eyewear on Lenskart: Improved Personalized Eyewear Recommendation System (Eye-PERS)
- Built with **Object Detection**, **Haarcascades**, **Image processing** (and other ML technologies), **AWS Rekognition** (API).

Github-GPT

June 2023

github.com/Madhav-MKNC/githubGPT

- Developed a Command Line-based bot that scans the source code of a provided Github repository and automatically raises issues if found. An advanced version of this also fixes the issues and submits a Pull Request.
- Written in Python and used **LangChain** framework and **LLM models** for detecting issues and code generation.

TECHNICAL SKILLS

Programming Languages: Python, Java, C, C++, bash/batch/powershell scripting, GoLang, HTML/CSS, etc.
Libraries: Flask, Langchain, Llama_index, Socket, BeautifulSoup, Selenium, Scrapy, Scapy, NMAP, NumPy, etc.
Tools/Utilities: Git, MySQL, Linux, Burpsuit, Metasploit, Wireshark, Ngrok, Virtual Machines, Hashcat, Hydra, etc.
Experience in: Web Scraping, Object Oriented Programming Systems, Data Structures and Algorithms, Capture the Flags (CTFs), Generative AI, Decentralization, Web Development, CLI developement, Open Source Development etc.
Achievements: *5-Star* rated in C++, Python, Problem Solving and Java on HackerRank. *3-Star* rated on *Codechef* with a rating of more than *1700*. *Codeforces* rating *1294*. More than two years' of Experience in using Linux/Unix (Ubuntu, Kali Linux, Parrot OS, Tail-OS), learnt Computer Networking (Implemented using Python)

RELEVANT COURSES

Data Structures and Algorithms, Computer Networks, Discrete Mathematical Structures, Penetration Testing, Command Line Interfaces, Networking in python, Intro to Blockchain, Computational physics, Signals and Systems, etc.