

Newton AG Mukhopadhyay

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EDUCATION

INDIAN INSTITUTE OF TECHNOLOGY, DHARWAD
B.TECH IN COMPUTER SCIENCE
ENGINEERING
Dharwad , Karnataka
Cum. GPA: 8.42 / 10.0

URMI PUBLIC SCHOOL CBSE
HIGHER SECONDARY
Percentage 91.4
JEE Adv. rank : 4315

LINKS

Github : [NewtonMukh](#)
LinkedIn : [Newtonmukho](#)
LeetCode : [Newtonmukho](#)

SKILLS

PROGRAMMING

- C/C ++
- Python
- SQL
- Linux, Bash
- BeautifulSoup (Web-Scraping)
- Numpy, Pandas
- Matplotlib, Seaborn
- NodeJS, ExpressJS
- HTML and CSS
- Javascript (ES6)
- JSON
- MongoDB/Mongoose
- Object Oriented Programming (OOP)

DEVELOPER TOOLS

- Git
- Bash Scripting
- GDB
- Docker
- Makefile
- Jupyter Notebook
- Latex
- Visual Studio Code

OPERATING SYSTEMS

- Windows
- Ubuntu

OTHER

- Java Servlets
- PhpMyAdmin

PROJECTS

MALWARE ANALYSIS USING MACHINE LEARNING

(PYTHON | C++ | ASSEMBLY LANGUAGE (x86)) JAN 2022-APRIL 2022

- Worked in group of two under professor Rajshekhar in the area of Malware detection using Control Flow graphs.
- Used softwares like IDA and Graph-Easy to disassemble the executable and to generate Dot files. Wrote Python code to extract block information from the dot files, and C++ code which builds the CFG from this data. Developed a modified DFS Algorithms that generates the trigrams of the opcodes.

AGNI : UNIX BASED REAL TIME OS SIMULATOR

(C++ | VS)

ONGOING

- Currently Developing a Unix type OS simulator using C++, that replicates the features of a modern Unix like Operating System. Aim is to replicate the File system, the process management as well as some memory management schemes in less than 2000 lines of code using various data structures like Binary Search Trees (BST's), Linked List etc.

FACEBOOK REST API

(NODEJS | EXPRESSJS | MONGOOSE)

MARCH 2022

- Build this REST API for a social media app like Facebook using NodeJS and ExpressJS. Used packages like mongoose, helmet and bodyparser for the same. Used MongoDB Cloud Atlas to define our post and User Schema. In this API, an user has to go through a basic login/register system after which he can like, dislike or even post his own post.

IPL DATA ANALYSIS

(PYTHON | PANDAS | MATPLOTLIB)

APRIL 2022

- IPL Data set was available on Kaggle. Analysed the data using pandas to answer various questions like, which team had won after bowling first, which player was awarded the most man of the matches title, the number of teams which had won by a certain number of wickets/runs, etc.

FILE MAPPER AND FILE VIEWER

(NODEJS | VS)

JULY 2021

- Made this simple project using NodeJS that, when given input the directory, organizes all the files inside that directory into their respective types. Further, made another function that lists all the files inside the directory in a tree like fashion using DFS.

AUTO VOICE RECOGNIZER AND MANAGER

(PYTHON | PUTTSX3 | SPEECHRECOGNITION)

JUNE - JULY 2022

- Built a mini voice recognizer that recognizes and parses the voice and does the task assigned. Opening up applications like powershell, playing some random songs or opening up the browser are some of its features.