

Ravi Shankar Das

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EDUCATION

Indian Institute of Technology Kanpur

Masters of Technology in Computer Science

Kanpur, UP

Aug 2021 – Aug 2023

EXPERIENCE

Software Engineer

Jul 2023 – Present

Agatsa Software

Noida, UP

- Developed and implemented a rule-based system to detect arrhythmia across 10 distinct symptoms.
- Enhanced peak detection algorithms, resulting in more accurate analysis of ECG signal.
- Designed and implemented techniques to detect and remove artifacts and baseline wander from ECG signals.
- Implemented a feature extractor from PPG signals to enable blood pressure prediction.
- Developed a classifier to distinguish between high and normal PPG samples, achieving an accuracy of 82%.
- Developed a regression model to predict blood pressure values with 91% accuracy within a tolerance of 20.
- Collaborated with the Android team to implement a feature for analyzing sleep data from a smartwatch.
- Integrated an ML model into the firmware of the H360 device to predict blood pressure.
- Collaborated with the backend team to develop an API that sends PPG samples to the server, extracts features, and sends the predicted blood pressure back.
- Tech stack: C, C++, Python, MATLAB, Machine Learning, TensorFlow, Keras.

PROJECTS

Automated Bug Localisation in Android | *Python, Shell, Appium, Frida, Android*

Jul 2022 – Mar 2024

- Developed and implemented a comprehensive framework for localizing crashing bugs in Android applications
- The tool successfully identified bugs within the top 10% wasted effort for 80% of the total benchmark.
- The average wasted effort improved from 0.92 to 0.19 between the random and optimized algorithms.
- Employed genetic algorithm to optimize test suites, for better localization.

Social Distancing Monitoring System | *Python, MobileNet-v2, YOLO, Flutter, Firebase*

Aug 2021 – Nov 2021

- Implemented a smart retail system for real-time monitoring in shopping malls for covid 19 prevention
- Developed a mobile app for pre-booking, face mask detection model using MobileNet-v2 with 92% accuracy, and social distance monitoring system using a YOLO-based object detection model

Whats the Meaning | *HTML, CSS, Javascript, Socket.io, Web Scrapping*

Aug 2021 – Sep 2021

- Developed a UI to find the meaning of a word with a click, added support for text and PDF files
- Implemented the client-server communication system using socket.io

TECHNICAL SKILLS

Languages: C, C++, Python

Web Technologies : HTML5, CSS3, Vanilla JS, Bootstrap

Libraries/Tools: Numpy, Pandas, Matplotlib, FastAPI, TensorFlow, Keras, VS code, Postman

Other technical skills: DSA, Machine Learning, Competitive Programming

ACHIEVEMENTS

- Attained **3*** rating on codechef with a max rating of **1628**
- Secured **96th** place in the February Long Challenge-I on codechef
- Secured **40th** place in the February Long Challenge-II on codechef
- Secured **98th** place in the June Long Challenge-II on codechef
- Secured **242nd** place in the July Long Challenge-II on codechef
- Achieved **6*** in problem solving and **5*** in C++ at HackerRank
- Solved 300+ problems on leetcode, with a contest rating of **1421**
- Solved 300+ problems on codeforces with a contest rating of **981**
- Secured All India Rank of **2175** in GATE CS 2021