

ANUBHAV KUMAR

ACADEMIC PROFILE

Degree/Certificate		Institution				Percentage/CGPA	Year
B-Tech		Electrical Engineering IIT (BHU), Varanasi				9.20	2021
Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Sem VII	Sem VIII
7.80	8.46	9.77	9.76	9.39	10.00	-	-
C.B.S.E. (XII)		MANAS INTERNATIONAL PUBLIC SCHOOL				83.00	2017
C.B.S.E. (X)		DAV PUBLIC SCHOOL				95.00	2015

SKILLS

Programming Languages

C, C++, Python, Java

Areas of Interest

Data Structures and Algorithms, Machine Learning, Web Development, Operating System, Mathematics

Technologies

React, Spring, JUnit, MySQL, PostgreSQL, Linux, MATLAB

Other Skills

Problem Solving, Quantitative aptitude

INTERNSHIP/TRAINING

Summer Internship

April 2020 - June 2020

Software Development Engineer Intern at Amazon Development Centre Pvt. Ltd., Bangalore

- Part of Performance Advertising Technology Team.
- Developed backend Coral Apis to automate the manual work of solving the customer's failed request for four different services which made the process very quick and extended this tool to generate a response report at the optimum time and wrote all the Unit Tests.
- Developed a full-stack web application to store the employee's personal data along with their project details and contact information giving access to only amazon internal employees. Only senior managers were allowed to add new employee data or update, delete existing employees' details while others were just allowed to view those data.
- Tech Stack - React Framework for Frontend, Spring Framework for Backend, MySQL and PostgreSQL databases, JUnit and Mockito for Unit Testing and Git as version control.

PROJECTS

Smart India Hackathon (SIH) - 2020

Jan 2020 - March 2020

Data Storage And Analytics With Dashboard

- Designed a **school management web application** for schools in hilly and rough terrain areas with low internet access through which student's data can be viewed and managed.
- Electron Framework has been used to develop Cross-Platform desktop application.
- Supports Auto-sync feature to sync the data automatically when the connection is re-established.
- Tech Stack - HTML, CSS, JS, Electron JS, Spring, MySQL.

Network Security

Jan 2020 - April 2020

- Designed and implemented a secure protocol using **RSA** algorithm to hold **Elections online** to maintain social distancing in the post-pandemic world that maintains both individual privacy and prevents cheating with ideal protocol requirements like - Only authorized voters can vote, no one can vote more than once, no one can determine for whom anyone else voted, no one can duplicate anyone's vote.
- Created a user interface to implement the **Data Encryption Standard (DES)** Algorithm with different hyperparameters like no. of rounds using suitable Permutation and Substitution Boxes.
- Implemented **Cipher Block Chaining (CBC)** and **Output Feedback (OFB)** modes using standard Blowfish Encryption.
- Tech Stack - Python, TkInter.

Summer Project

May 2019 - July 2019

Fire Detection And Alert System Based On Image Processing

- Developed a **Fire Detection Camera** that can detect the earliest stage of fire and recipient can be informed in case of danger.
- Implemented an algorithm for detecting the fire pixel using RGB, CIE Lab, YCbCr color spaces and applied Binary Frame Differencing method for detecting moving fire pixels.
- Recipients are informed through a text message using Twilio API (IOT Application).

- The whole algorithm has been implemented in Raspberry Pi 3 and OpenCV has been used for Image Processing.

Exploratory Project

Jan 2019 - April 2019

Follow Me Trolley

- Developed an **autonomous robot** that can track humans and follows them.
- Integrated alarm system that will be triggered on stopping the trolley forcefully.
- The whole algorithm has been implemented in Raspberry Pi and OpenCV has been used for Image Processing.

B.Tech Project

Jan 2020 - May 2020

GUI Based Loadflow Toolbox

- Developed a MATLAB GUI toolbox for **Power Flow Analysis**.
- This GUI Toolbox provides all the five methods that are commonly used for load flow analysis - Newton-Raphson Method, Gauss-Seidel Method, Backward-Forward, Current Injection and Fast Decoupled Method.
- Tech Stack - MATLAB GUI and MATLAB Programming.

HONOURS AND ACHIEVEMENTS

Achievements

- Smart India Hackathon (SIH) - 2020 College Finalist.
- 4-star rating on CodeChef and Expert on Codeforces.
- Winner in Inter Hostel Kabaddi Competition 2017 at IIT(BHU).
- Won gold medal in High School Science exhibition.

EXTRA-CURRICULAR ACTIVITIES

Participation

- Led my team and qualified for the second round in National Boeing Aeromodelling Competition, IIT BOMBAY.
- Participated in Robotron'17, an intra-college event organised by Robotics Club, IIT(BHU).
- Participated in Hurdle Mania and Drone Tech in Technex.

T: 9123402316 **E:** anubhav.kumar.eee17@itbhu.ac.in **Address:** Janki Bhavan, Badi Sangat, Hospital More, Jehanabad, Bihar-804408