VINAYAK AGRAWAL
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EDUCATION

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY (IIIT) BHOPAL December 2020 – Present
Bachelor of Technology, Information Technology CGPA: 8.60
Courses: Data Structures & Algorithms, Object Oriented Programming, Database Management System

GYAN GANGA INTERNATIONAL ACADEMY, BHOPAL April 2018 – July 2020
Higher Secondary Education, PCM Percentage: 87%

EXPERIENCE

MATHWORKS May 2023 – July 2023
SDE Intern in Engineering Development Group Bengaluru, Karnataka

- Worked on **C++ code** generation for **SIMULINK** blocks in **MATLAB**, contributing to the "Improve Module Names for Debug Pretty Prints" project, **boosting MATLAB's codebase clarity and maintainability**.
- Conducted **debugging** and enhanced the existing codebase using **MS Visual Studio,** refining naming conventions for the intermediate representation (IR) folder names for each subsystem block in the Simulink model.
- Assisted with **MATLAB ANSWERS**, contributing to accepting **3 solutions**.

INSPIRE CLUB, IIIT BHOPAL

PRESIDENT at INSPIRE CLUB, IIIT BHOPAL July 2023 – Present

- Mentor **150+** students, leading sessions and organizing camps in IITs and NITs to enhance **personality development and technical skills** along with good character and competence to build future leaders.

PROJECTS

ESP32-BASED HUMIDITY PREDICTION USING MACHINE LEARNING ALGORITHM

- Engineered an **IoT** environmental monitoring system utilizing ESP32 and Arduino IDE, employing **linear regression** for **90% accurate** humidity predictions from DHT11 sensors.
- Identified outliers to **ensure data accuracy**, and seamlessly integrated sensor readings in ESP32 code for real-time predictions, offering a robust solution for smart environmental sensing.

NEURADIGITS: HANDWRITTEN DIGIT CLASSIFICATION USING NEURAL NETWORK

- Executed a Neural network project for MNIST handwritten digit classification using **Python** and TensorFlow/Keras.
- Preprocessed and visualized the dataset, constructing a multi-layer neural network achieving **91.9%** training accuracy and **89.1% test accuracy**.
- Demonstrated expertise in data handling, neural network design, and model evaluation.

INTELLIGENTGUARD: SPAM MAIL DETECTION SYSTEM

- Developed a spam detection system using Python and machine learning, attaining a high accuracy of **89.7%** on training data and **88.6% on test data**.
- Implemented feature extraction with TF-IDF vectorization and applied **Logistic Regression** for classification, showcasing proficiency in data preprocessing, model training, and evaluation.

SKILLS AND INTERESTS

Languages: Hindi(Native Speaker), English (Fluent)
Programming: C/C++, Python, Java, Python Tkinter GUI, SQL
Interests: Machine Learning, AI, Data Science, IoT, Software Development
Libraries: NumPy, Pandas, Matplotlib

ACHIEVEMENTS

- Secured the **3rd Rank** in the City in 10th Board examinations with a remarkable **95.33%.**

TRAINING AND CERTIFICATES

SCALAR LEARN SQL USING MYSQL AND DATABASE DESIGN COURSE

- Acquired proficiency in **SQL** and MySQL, laying a strong foundation in database management.

MATLAB ONRAMP AND SIMULINK ONRAMP

- Mastered creating, editing, and simulating models in Simulink.
- Gained proficiency in MATLAB, its features, and scientific and data analysis workflows.

TECHSPHURTI IIT PATNA

- Learned the basics of IoT, Machine Learning, and AI along with their application under the supervision of Dr. R.K. Behera