Arjun Kumar Ghosh

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Education

Netaji Subhash Engineering College Kolkata
Bachelor of Technology in Electronics and Communication *Oct 2020-July 2024*
(8.82 GPA)

Kalna Maharaja's High School Kalna
10+2 (PCM) *March. 2018 – May 2020*
89%

Projects

Emergency Keyword detection | View Project | *Python, Flask,Tensorflow, Spectrum Analysis* Oct 2023 – Present
- Engineered a real-time keyword detection system leveraging **LSTM** neural networks, with advanced audio data processing techniques like MFCC feature extraction.
- Orchestrated seamless integration through **API** deployment using **Flask**, ensuring robust performance and easy accessibility for various applications

Phising Link Checker | View Project | *NLP,Python,Flask,scikit-learn,JS,HTML,CSS* Feb 2024 – Mar 2024
- Developed a **Google Chrome extension** leveraging **RESTful APIs** to interface with a **Flask-based** machine learning model, providing real-time predictions on URL maliciousness.
- Integrated **NLP** techniques and CORS to enhance communication between the extension and model, facilitating efficient data transmission.

Algorithmic trading model for Bitcoin price prediction | View Project | *Python,Pandas,Numpy*Dec 2023 - Jan 2024
- Preprocessed historical Bitcoin data from **2018-2022**, calculated daily returns, and normalized the dataset using **MinMaxScaler**
- Developed a Long Short-Term Memory **(LSTM)** model to predict Bitcoin closing prices. This model achieved a **86%** improvement in prediction accuracy (R-squared:0.96) compared to a 3 years moving average baseline.
- Implemented backtesting to validate the model, generating buy/sell signals based on predicted daily returns exceeding a **1%** threshold.

Mini Spectrum Analyzer | View Project | *Arduino Nano ,Microphone module MAX 4466* May 2023 – June 2023
- Leveraged Arduino Nano for **real-time audio spectrum analysis** displayed on an OLED screen through a **MAX4466** microphone module.
- Enabled smooth data transmission with jumper wire connections between Arduino Nano, **OLED display**, and microphone module.

Technical Skills AND INTEREST

Languages: C/C++, Python
Databse: Realtional Database (MySQL)
Frameworks: Flask,TensorFlow, scikit-learn,Keras,Pandas
Developer Tools: Git,Github,Postman,VS Code
Libraries: pandas, NumPy, Matplotlib
Cloud/Database: Render,Streamlit
Relevant Coursework: Artificial Intelligence,Design and Analysis of Algorithms, Object Oriented Programming,
Area of Interest: Data Analysis, Deep Learning,GenAI

Achievements

- Top 15,**HackNITR 5.0** (Hackathon), NIT, Rourkela | Certificate *2024*
- **Hack4Bengal 2.0**(Participant) , SNU, Kolkata | Certificate *2023*

Volunteer Experience

Phoenix Technical Coordinator, Official Tech Club - NSEC - Kolkata 2023-2024
(Organized Hackathon for Annual Technical Fest for 2024 resulting in 125% growth in impressions from previous year.)