TANWEERUL HAQUE

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EDUCATION

- **Birla Institute of Technology**   Mesra, Ranchi
  Bachelor of Technology - Electrical and Electronics (EEE); GPA: 8.12   *July 2018 - June 2022*

EXPERIENCE

- **Data Science Intern**   Remote
  Innovaccer   *May 2021 - July 2021*
  - : Worked on ETL processing and analytics of FHIR healthcare data. Analysed, validated and mapped all incoming data with the schema. Wrote several SQL queries, functions, triggers for data ingestion, validation and updation into schemas. Used asyncpg package for CRUD management in PostgreSQL. Wrote python scripts to automate several pipelines. Implemented multiprocessing for reducing time taken to parse resources. Deployed everything on Amazon EC2 instance.

- **Research Intern**   Remote
  Dr. Rashmi Rathi Upadhyay, Assistant Professor , NPIU   *December 2020 - January 2021*
  - : Researched on various convolutional deep learning signature verification methods. Implemented scientific research papers. Devised a new deep residual depth-wise convoluted stacked state of the art model to surpass existing benchmark accuracy with 100 % and EER = 0.00 % on MYCT and ICDAR databases consisting 3500 signatures of 200 users

SKILLS SUMMARY

- **Languages**:   C++ , Python
- **Machine Learning**:   Algorithms , NumPy , Matplotlib , Seaborn , Pandas , Scikit-learn , Plotly
- **Deep Learning**:   Algorithms, CNN, Computer Vision (OpenCV), TensorFlow , Keras , RNN, LSTM
- **Time Series Analysis**:   Algorithms , Sktime, Sktime-DL, Univariate and Multivariate analysis
- **Natural Language Processing**:   NLTK, SpaCy, Word Embeddings, Encoder-Decoder, Attention, Transformers
- **Audio Processing**:   Librosa library
- **Development**:   HTML , CSS , JS
- **Database**:   SQL , PostgreSQL
- **Others**:   Advanced Excel , GIT

PROJECTS

- **OFFLINE SIGNATURE VERIFICATION**: Constructing deep residual depth-wise convoluted stacked model using TensorFlow and Keras. Surpassed existing benchmark accuracy with 100 % and EER = 0.00 % on databases of MYCT and ICDAR consisting a total of 3500 signatures of 200 users

- **COVXNET (COVID 19 DETECTOR USING X RAY IMAGES)**: Constructing baseline model , deep residual network model , transfer learning model using ResNet50V2 and implementing research paper - "CovXNet" to detect COVID 19 using x ray images, thereby comparing accuracies and classification reports to analyse and optimise each model.

- **VOICE CONTROLLED BOT**: Segmenting, isolating and separating source signal from a noisy audio signal using non-negative matrix factorization to obtain a time-frequency mask. Performing speech to text conversion using pyttsx and executing a list of commands.

- **REAL TIME PROJECT ON COMMODITIES IN RETAIL STORE**: Applied Image pre-processing on various retail store commodities was done using box contour detection, glare removal, edge map through OpenCV to extract important textual information through open source OCR.

- **PREDICTING OLA FARES (HACK THE MOUNTAINS)**: Analysed a dataset of Ola Cabs from Kaggle which comprised of more than 10 lakhs of data. Used XGBoost Regressor model for optimal performance. Test Accuracy Score - 97.27%. RMS Score - 2.17. Public Leaderboard Rank (Kaggle)- 27. Private Leaderboard Rank (Kaggle) - 2.

- **GOOGLE MEET AUTO ACCEPTOR**: Removes the need of a third party extension to auto accept people in a google meet meeting by pasting the JS code in browser's console or by using third party script injectors.

VOLUNTEER EXPERIENCE

- **Mentor - Hack The Mountain , LetsGrowMore , DevIncept , Widhya Community**
  Helping participants for brainstorming ideas, code walk-through, live sessions for clearing doubts during hackathons
- **Open Source Contributor - Script Winter Of Code and GirlScript Summer of Code**
  Contributed to various ML/DL/Computer Vision projects
- **President - Team AVEON Racing**
  Led a team of 25+ members for building, designing and testing the fastest, durable Electric All Terrain Vehicle
- **Executive Board Member - Google DSC**
  Responsible for executing projects and organising technical events
- **Finance co-ordinator , Hack-A-BIT**
  Responsible for organising and implementation of all the events of east India's largest hackathon , Hack-a-Bit

ACHIEVEMENTS

- Flipr Hackathon Winner (Rank 1) - November , 2020
- Top 25 contributor in a 2 month open source program by DevIncept
- Rank 41 out of 750 teams in IIT Cascade Cup 2020 , an online datathon challenge
- DevIncpet Scholarship Winner - OpenCV course
- Hosting events, workshops, weekenders. Volunteering in Finance, Resource teams of college fests and DJing too.