Qalab E Abbas

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Location: Seoul, South Korea

Education

- **Kumoh National Institute of Technology (Kit)** — Gumi, South Korea
  Master of Science in IT Convergence — *Sep. 2018 – Dec. 2020*
- **National University of Sciences and Technology (NUST)** — Islamabad, Pakistan
  Bachelor of Engineering in Electrical (Telecom) Engineering — *Sep. 2012 – July. 2016*

Experience

- **Furence** — South Korea
  Speech Signal Processing and Synthesis-Intern — *Aug. 2021 Contd.*
  - **Speech Emotion Recognition**: Working on Speech Emotion Recognition in a natural Environment
  - **Text-to-Speech (TTS) and Speech-to-Text (STT)**: Real time TTS/STT development for Korean language.
- **ToICoS** — Daegu, South Korea
  Data Scientist-Intern — *Jan. 2021 Mar. 2021*
  - **In-House Water Leakage Detection**: Created models for detecting in-house water leakage using smart water meter data.
  - **Water-Meter Freeze Detection**: Created a model for calculating the probability of meter freezing in cold weather conditions.
- **Kumoh National Institute of Technology** — Gumi, South Korea
  Research Assistant — *Sep. 2018 – Dec. 2020*
  - **Research Assistant - Machine Learning**: Research on machine learning and deep learning algorithm using TensorFlow and Python. Mainly worked with time-series datasets and predictive modeling problems.
- **Dice** — Lahore, Pakistan
  Project Engineer — *Sep. 2016 Jul. 2017*
  - **Team Leader**: Responsible for a team of telecom technicians. Duties included surveying and inspecting and installing equipment at BTS throughout Punjab, Pakistan. This specific role also allowed me to learn firsthand how to lead a team and come up with a solution on the spot.
  - **QA Engineer**: As the project Engineer, I was responsible for the quality checks of the equipment before and after installation and making sure everything was running smoothly before leaving the site.
  - **Coordinator**: The job involved keeping in constant touch with the management, vendors, and clients. Keeping everyone up to date about what is going on on the site and any changes in the schedule.

Projects

- **Credit Card Fraud Detection Using Imbalanced Classification**: Used a combination of different sampling techniques to reduce and balance the dataset. The main focus was on decreasing the run time of the entire code. Achieved a 50% decrease in run time as compared to the best performing algorithm while keeping the same results.
- **Tax Forecasting Using Deep Learning**: Comparison of different Machine learning and Deep learning techniques for purpose of forecasting the tax revenue for future months.
- **Loan Approval Using Machine Learning**: Classification of customers as good or bad to decide if they should be given a loan. The challenge here was to deal with skewed data because the ML algorithms expect a balanced dataset for proper learning.
- **Data Exploration in SQL - Covid Cases Data**: Exploratory Analysis on Covid Dataset Using SQL to see any interesting patterns on country and continent scale.
- **Covid Cases Visualization Using Tableau**: Visualization of Covid Cases Using Tableau Public.
- **Data Cleaning in SQL - House Price Data**: Nashville House price data was cleaned using SQL by removing hard to interpret columns and by changing and extracting some features from columns like Address etc. Better/Cleaner the Data, easier it is to draw insight from it. Cleaner data also increases the accuracy of Prediction Models as well.
- **Data Analysis Using Python - IMBD Data**: Analysis of IMDB dataset to see the correlation between different features of the data. For example, the correlation between Movie gross revenue and budget is highest.
- **Secure Data Communication Using Stream Cipher Trivium**: Audio encryption and decryption in real-time over an RF channel, using a fast and secure trivium encryption algorithm.

Research Publications

- A Comparative Study of Machine Learning Algorithms Based on Tensorflow for Data Prediction
- A Survey of Blockchain and Its Applications

Skills

- **Industry Knowledge**: Machine Learning, Deep Learning, Classification, Speech Processing and Synthesis, Regression, Time-Series, Signal Processing, Predictive Modeling, Anomaly Detections
- **Tools**: SSMS, Tableau, Excel, Knime, Jupyter Notebook, Anacondas
- **Programming Languages**: Python, SQL, C++, HTML, CSS, Shell Script
- **Python Libraries**: TensorFlow, Pytorch, TensorflowTTS, TTS, Keras, Scikit-Learn, Numpy, Pandas, Matplotlib, Seaborn, Statsmodels, Prophet
- **Language**: English, Urdu, Hindi, Punjabi