

Ketulkumar Polara

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EDUCATION

M.S Information Technology, *Florida International University*

April 2023

Coursework Specialization: Data Mining, Deep Learning, Software Engineering

GPA: **3.82** / 4.0

B.S Information Technology, *Florida International University*

Dec 2020

Coursework Specialization: Cybersecurity, Databases, System Administration, and Web Development

Minor: Entrepreneurship

GPA: **3.32** / 4.0

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, SQL
- **Cloud:** AWS (S3, EC2, SageMaker), Azure (Data Lake, Data factory)
- **Databases:** SQL Server, MySQL, PostgreSQL
- **Data Visualization:** Matplotlib, Plotly, Seaborn
- **Statistics/Machine Learning/Deep Learning:** A/B Testing, Linear/Logistic Regression, SVM, kNN, Decision Tree, XGBoost, Clustering (KMeans), etc. (Scikit-learn, Pandas, NumPy), ANN, CNN, Transformers, Autoencoders (TensorFlow, Keras, Pytorch)
- **Others:** Git, Excel (V-Lookup, Pivot Tables, Formulas, Charts), Streamlit, Windows, Linux, UNIX.
- **Exposure:** Flask, R, KNIME, Hadoop, Spark

CERTIFICATIONS

IBM Data Science Professional, IBM | *Certificate*

Deep Learning Specialization, deeplearning.ai | *Certificate*

Azure AI Fundamentals, Microsoft | *Certificate*

Advanced Data Science Specialization, IBM | *Certificate*

Big Data Specialization, University of San Diego | *Certificate*

WORK EXPERIENCE

Energy Systems Research Lab (FIU) | Machine Learning Researcher | Miami, Florida

Aug 2021 – Current

- Designed and developed Time-series database (InfluxDB) to capture data from 200 data points using RTI Data distributions service (Similar to Apache Kafka) for smart grid testbed.
- Using AWS SageMaker, S3, and SageMaker endpoint, trained and deployed Autoencoder and Isolation Forest Machine Learning model in python for anomaly detection in smart grid testbed.
- Implemented Federated Learning Framework Flower with ANN and CNN to detect Denial of Service attacks on IoT devices.
- Implemented Forecasting models for Load and Solar Power using LSTM and Transformer Model.

Apexx Strategies | Data Engineer, Intern | Reston, Virginia

Mar 2020 – Dec 2020

- Performed Data Collection (SQL), Data Cleaning (Python), and Data Visualization.
- Develop deep understanding of the data sources, implement data standards, and maintain data quality.
- Developed a pipeline to perform full loading of data from OLTP source to Azure Data Lake in CSV format using Azure Data Factory.

PROJECTS

Title: Attack Detection in IEC 61850 Protocol | Python | TensorFlow | Artificial Neural Network

- Performed intensive literature review to understand IEC 61850 protocol and prior work in Machine Learning.
- Performed data collection, data cleaning, feature engineering, feature creation and used Principal Component Analysis algorithm (PCA) for dimension reduction.
- Implemented and optimized ANN to increase model performance based on evaluation metric Recall, Precision and F1-score.

Title: Customer Default Prediction

- Handled Imbalanced target variable and skewed features using statistical techniques like Stratified K-Folds cross-validation and Yeo-Johnson Transformation.
- Implemented machine learning algorithms like Logistic Regression and Random Forest.
- Leveraged Grid Search for hyperparameter optimization. Obtained AUC values of 85 percent.

LEADERSHIP AND ACTIVITIES

President

Jan 2022 - Current

Artificial Intelligence & Coding Club, FIU, *Miami, FL*

- Hosted Events, Workshops, and competitions for democratizing AI into all domains.

Webmaster, IEEE Miami Section