

Shardul Suryakant Rane

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EDUCATION

- **Master of Science in Data Science** **GPA: 3.56/4.0**
University at Buffalo, State University of New York Aug 2019 - Feb 2021
Relevant Coursework: Machine Learning, Statistical Data Mining, Deep Learning, Data Intensive Computing, Probability, Data Modelling
- **Bachelor of Engineering in Computer Engineering** **GPA: 7.52/10.0**
University of Mumbai Jun 2013 - May 2017
Relevant Coursework: Artificial Intelligence, Software Engineering, Data Structures, Database Management, OS, Analysis of Algorithms

TECHNICAL SKILLS

- **Skills:** Predictive Models, Hypothesis Testing, EDA, Time-Series Models, Anomaly Detection, Topic Models, Marketing Analytics
- **Programming and Technologies:** Python, R, SQL, NoSQL, MATLAB, Java, C, JavaScript, Spark, Hadoop, Docker, RESTful API, Google Cloud Console, AWS Lambda, Sagemaker, IBM SPSS, Qlik, Tableau, GitHub, Adobe Analytics, Google Analytics, Excel
- **Libraries:** Scikit-Learn, PyTorch, Keras, TensorFlow, Scipy, Pandas, Numpy, Matplotlib, dplyr, DAAG, FB prophet, R-Shiny

PROFESSIONAL EXPERIENCE

Artificial Intelligence Intern, Hewlett Packard (HP) -Boise, USA Jun 2020 – Present

Developed Forecasting Tool for Printer Toner Usage at 93% Accuracy

- Built Time series model for 5 years monthly usage prediction in 10 markets to help product managers with printer feature selection in new product design. **Tools :** Logarithmic Regression, R-Shiny, AWS Redshift, MS SQL, Qlikview
- Tweaked accuracy of 82% by 11% with Stepwise Selection and Regularization for better model interpretation with PMs

Analyzed Impact of Pandemic on Product Usage and Share in 10 Markets Worldwide

- Performed Hypothesis Testing on Time-Series Dataset with Granger Causality, Dickey-Fuller test to explain the impact of COVID-19 on product sales and page shares in Americas, Europe and Asia

Traced Patterns in Counterfeit Product Reviews with 85% accuracy with NLP

- Designed Bi-gram Topic Model and Sentiment Engine for Clone Product Usage. Intimated PMs by highlighting the topic wise keywords for positive/negative reviews. **Methods:** Sklearn, NLTK, Non-Negative Factorization, SVD, TF-IDF, Watson sentiment

Data Analyst, Performics, Publicis Groupe -Mumbai, India Dec 2017 – Jun 2019

Implemented User Behavior and Intent Prediction Model with 84% accuracy on Web Traffic data

- Developed predictive model to track user purchase intent based on search term & demographics with Data studio dashboard. Improved Display Targeting revenue by 12% for 3 Clients. **Methods:** GCP, Python, KMeans, PCA, Random Forest Classifier

Designed Website Performance Reporting BI Framework for 10+ Ecommerce, Travel and Finance Firms

- Analyzed Clickstream data to build Business Intelligence dashboard for sales, product performance, A/B tests using Python, JavaScript in Google Analytics. Helped improve Ecommerce journey for Thomascook, Bloomberg and Reliance Insurance.

Established Custom Ecommerce Revenue Attribution Reports To Reduce Task Time by 200%

- Updated Traditional First touch attribution model based on user session duration and conversion rules with an automated reporting dashboard in Data Studio. **Tools :** Python, Excel, Google Analytics, BigQuery, GCP

ACADEMIC PROJECTS

Classification Model Project with 'Dublin Business School' students to Predict Game Outcome [\[Link\]](#)

- Implemented Ensemble Learning with 78% Recall accuracy using XGBoost, Random Forest Classifier and SVM on multiclass dataset with to predict soccer game result. Implemented Grid Search for Parameter Tuning for the models.

Anomaly Detection in Machine Sensors Using Supervised Machine Learning [\[Link\]](#)

- Traced machine failures with 89% accuracy for varying threshold with ensemble of Auto-encoder LSTM Neural Network and ARIMA model on 'Pressure sensor' data. Improved accuracy by 15% by Stabilized Time-series by Time Differencing.

Apache Spark Multi-label Natural Language Classifier to track Movie Genres [\[Link\]](#)

- Overcame the limitation of Multi-label classifier in Spark by implementing multiple Logistic Regressors for each class
- Improved accuracy of 71% by 13% with feature engineering by validating TFIDF, Word2Vec in Spark Mllib

Fraud Detection Web-tool for Employees Travel Expenses Auditing [\[Link\]](#)

- Tracked incorrect travel expenses with One Class SVM at 87% and predicted expenses with Ridge L2 Regression at 96% accuracy. To tackle data imbalance in dataset implemented 'SMOTE for regression'.

Convolutional Neural Network model with Transfer Learning to Identify Stars with Exoplanets [\[Link\]](#)

- Classified the stars with 97% accuracy using CNNs for Identifying light flux Spatial Pattern
- Implemented Transfer Learning between VGG16 and traditional CNN in Keras with Flask API for model support

ACHIEVEMENTS & LEADERSHIP

- Achieved AI Explorer badge as AI intern at Hewlett Packard & participated in InternStellar Awards for print usage prediction tool
- As a Member of Data Analytics seminar group at Publicis, Trained employees on Advanced Analytics and Statistics
- **Certified:** Coursera Neural Networks, AWS Machine Learning, Apache PySpark, Tableau Certification, IBM SPSS