Anand Raj

anand.raj@gwu.edu | (703)457-0873 | Arlington, VA 22203 | LinkedIn

EDUCATION

Master of Science, Data Science *Aug 2023 – May 2025 (Expected)*
George Washington University

Bachelor of Engineering, Electrical and Electronics Engineering *Aug 2017 - Sep 2021*
RNS Institute of Technology

TECHNICAL SKILLS

Programming languages: R, Python, and C.
Database: SQL
Visualization tools: Tableau
Machine Learning Algorithms: Linear/Logistic/Lasso/Ridge Regression, Decision Trees, Naive Bayes, KNN, XGBM, Stacking, SVM, SVD, Bagging Methods and Neural Networks.
Data Mining: Principal Component Analysis, Associated Rules, Recommendation Systems, and Clustering Analysis.
Predictive Analytics/Forecasting: Time series analysis, ARMA, ARIMA, and SARIMA.
Deep Learning: Artificial Neural Networks and Convolutional Neural Networks.
Product Development: Agile Methodology, Product Cycle, JIRA for Ticketing, Git, GitHub.

PROJECTS

Loan Default Risk Forecasting and Web Application Deployment
- Utilized advanced analytics to address the challenge of forecasting loan default risk in customer profiles, thereby contributing to developing a cutting-edge web application tailored to facilitate future predictions.
- Conducted extensive data cleansing, preprocessing, and in-depth analysis to extract actionable insights and emerging trends.
- Experimented with models like Random Forest, KNN, and Naive Bayes and eventually got an accuracy of 86%.
- Employed Flask for seamless deployment of the predictive model.

Improving Image Quality in Low-Light Conditions
- Participated in a hackathon, and performed data preprocessing for optimal image use.
- Designed an efficient CNN architecture with ReLU activation and performed hyperparameter optimization.
- Implemented Adam optimizer and minimized MSE loss for superior results.

Performance Comparison of Prediction Algorithms for Forecasting of Wind Power Generation *June 2022 – Sep 2022*
- Explored ARIMA, SARIMAX, and ARMA models, to predict active wind power. Emphasized the importance of data preprocessing, EDA, and model selection to ensure accuracy.
- Utilized Python (PyTorch) for model training, favoring ARIMA for superior wind power forecasting with lower MSE.
- Published this as a research paper at the International Conference on Smart Electronics and Communication (ICOSEC-2022).

Facial Feature Extraction and Emotional Analysis Using ML *Aug 2022 – Jan 2023*
- Enhanced facial expression recognition with attentional convolutional networks, improving accuracy on various datasets.
- Leveraged LBP for robust illumination feature extraction and integrated PCA for facial recognition.
- Achieved precise emotional recognition through focused facial region analysis.
- Published this as a research paper in the International Journal of All Research Education & Scientific Methods (IJARESM-2023).

WORK EXPERIENCE

Software Engineer, Continental AG. *Sep 2021 - Aug 2023*
- Worked on ADAS (Advanced Driving Assistance Systems) and developed products like EBA (Emergency Brake Assist), and RPCP (Rear Pre-Crash Predict) for clients Mercedes Benz, Volkswagen, and BMW in agile methodology.
- Algorithm Development in C and Testing using GTest.
- Performed reverse engineering for fixing bugs using the C programming language and providing problem-solving solutions to customer-reported problems in the simulation environment.
- Implemented automation using Python scripting on real-time problems.

Data Science Intern, Innodatatics *Jun 2020 - Aug 2020*
- Collaborated with a dynamic team to conduct in-depth data analysis utilizing Python and Tableau, providing valuable insights into the client's Sales data.
- Analyzed user behavior, temporal trends, and distinctions between Free and Paid users.
- Formulated data-driven recommendations and compelling narratives, and communicated to our client.

Intern, Defense Research Development Organization *Jan 2020 - Feb 2020*
- Worked on Validation and Verification Process Standards in avionics hardware.
- Collaborating with different teams and Reviewing standards of all the Validation and verification processes.

CERTIFICATIONS

- Data Science Professional Certification by ExcelR, 2020.
- Certification in Data visualization and communication using Tableau by Duke University, Coursera,2020.
- Neural Networks and Deep Learning Certification by DeepLearning.ai, Coursera, 2020.
- Data Fusion in Autonomous Driving using Deep Learning by Continental Autonomous Mobility,2022.
- Machine Learning Certification by Continental Autonomous Mobility, 2022