TANVEER ALAM

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Highly analytical and detail-oriented professional seeking a Data scientist position to utilize strong mathematical background, programming skills, and statistical knowledge offering experience in interpreting and analysing data. Proficient in various data models, machine learning algorithms, and advanced data mining techniques.

SKILLS

Data Visualization | Google Analytics | Exploratory Data Analysis | GCP | Git, GitHub | Tableau | SQL (MySQL, SQL Server, Postgres) | Clustering & Classification | AWS, Spark, SparkSQL, PySpark | BigQuery | Python (Numpy, Pandas, Matplotlib, Plotly)

WORK EXPERIENCE

Associate Data Scientist Nov 2023 - Present
Boeing India Pvt. Ltd.

Responsibilities:

- Performed data cleansing enrichment and mapping tasks
- Created BigQuery tables from CPL data of each tail for each CAC (cabin air compressor) for further processing.
- Performed feature engineering, and re-calibrated the model to generate the new features table for further processing.
- Perform residual analysis of the output from model and measure parameters using various plots, principal component analysis and clustering.
- Perform statistical analysis on the features output (BigQuery table) by model and interpret in presentable way.
- Used JIRA to log and keep track of bug reports and task progress.
- Present the findings in statistical analysis with team and create report.
- Created and updated knowledge-based articles as needed for new tasks.

Mech Sys Design Engineer Sep 2021 - Apr 2022
Boeing India Pvt.Ltd.

Objective: To predict hard landings of aircrafts using ML models and interpret the model to identify the reasons that increases the risk of hard landing.

- Extracted QAR (Quick Access Recorder) data NASA Dashlink website that hosts 2.5 years QAR data of a 35-tail fleet of regional business aircraft.
- Converted QAR data from matlab format to CSV format for each flight.
- Explored the data by exploratory data visualization for each sensor output for couple of flights.
- Extracted and cleaned data around touchdown time and consolidated in one CSV file.
- Plotted the effect of each sensor on vertical acceleration which is considered for hard landing classification.
- Selected features after brainstorming with team and SME.
- Selected usable ML model based on the data distribution and after suggestion from SME.
- Predicted hard landing for flights using Linear SVC.
- Using feature importance and feature weights, identified the features which increased the risk of hard landing
- Built a ML model for predicting runway overrun by aircrafts using QAR data.

Structure & Payload Design Engineer Jun 2017 - Present

Boeing India Pvt. Ltd., Chennai, India

- Led the team for 777X non-recurring product development and Boeing Sub-components team and maintained the deliverables with laudable quality.
- While leading the team, reduced the defect density from 2.0 to <0.5, increased first time quality to 95% and maintained on time delivery to 100%.
- Conceptualized and developed secondary structures for outboard of Boeing 777X-9 and 777X-8 to meet the loading requirement from stowbin group.
- Concept design of intermediate fittings to support stowbins.
- Development of design concepts for solving imminent challenges implementing any engineering changes (ECR).
- Created ICM (Interface Control Model) & RLM (Relational Layout Model) for secondary structure of Boeing 777X-8.
- Optimized metallic intermediate fittings' design to chopped fiber composite fitting as per design for manufacturing & assembly criterion and stress analysis reports. This resulted in ~40% weight saving.
- Reverse engineered single sourced parts to Boeing Design methodology by collaborating with ME, teardown lab, BMT, and suppliers for producibility.
- Performed tolerance stack-up analysis to validate part dimensions, datum schemes, designed gaps, and proper assembly.
- Designed gear mechanism for Boeing 747 door latch assembly by referring design guidelines from American Gear Manufacturing Association (AGMA) and ANSI standards.
- Reverse Engineered latches, door latch & handles, and bin latches as per SCD (specification control drawing) and teardown data.
- Model based design for required detail and assemblies in CATIA V5 FT&A (Functional Tolerancing & Annotation) workbench.
- Collaborated with multidisciplinary engineering teams to design structural modifications of aircraft and systems.
- Member of Boeing quality checker signoff team & quality assurance. Responsible for reviewing the assigned datasets before all stakeholders' signoffs.

Senior Design Engineer Jul 2013 - May 2017

Cyient Ltd., Hyderabad, India

- Mentored and led a team of 6 members for flight test design build of Boeing 737Max-7 for 6 months.
- Delivered 8 packages in 4 months while leading with 100% on time delivery, 100% first time quality.
- Created flight test design build for Boeing 787-10, 737Max-9 & 737Max-7 with on time delivery 100% FTQ & FTQ.
- Conceptualized and developed the support structure for test equipment to accommodate the testing equipment based on the flight test requirement.
- Presented the design (modified or new) through preliminary/critical design review.
- Collaborated with ME, stress team and production engineers for the surrounding structure confirmation and design validation.
- Generated drawings or MBD, Part List and released the package in ENOVIA by taking the signatures of all the stakeholders.
- Member of Boeing quality checker signoff team. Responsible for reviewing the assigned datasets before all stakeholders' signoffs.

EDUCATION

Master of Science in Data Science Sep 2022 - Sep 2024

University of Arizona, Arizona

Bachelor of Technology (BTech) - Mechanical Engineering Aug 2009 - Jul 2013

IIIT Jabalpur