

# MANOJ MANOHARAN

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## TECHNICAL SKILLS

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**Languages:** Python, R

**Databases:** MySQL, PostgreSQL

**Libraries:** NumPy, Pandas, Matplotlib, Seaborn, Scipy, Vega-Altair, Plotly, Bokeh, Plotnine, dplyr, tidyr, ggplot2 Scikit-Learn, NLTK

**Data Science:** Machine Learning, Natural Language Processing (nlp), Microsoft Excel

**Data Visualization:** PowerBI, Tableau

**Others:** Selenium, HTML, Scrapy, Streamlit, Flask

## WORK EXPERIENCE

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### Caterpillar Inc

*Associate Design Engineer*

Chennai, India

Jan 2022 - March 2023

- Executed modeling and detailing tasks for Engine components, ensuring adherence to project requirements and standards.
- Participated in project meetings, provided regular updates to Project Lead, and managed queries related to tasks.
- Contributed to cost reduction initiatives, utilized PLM (Teamcenter) knowledge, and maintained project tracking.

### Delphi-Tvs

*Junior Engineer*

Chennai, India

Aug 2020 - Nov 2021

- Conducted quality inspections on manufactured components using precision measuring tools, ensuring compliance with specifications and standards.
- Assisted in developing and implementing quality control procedures to maintain product quality and reliability.
- Collaborated with cross-functional teams to analyze root causes of quality issues and implement corrective actions for continuous improvement.

## PROJECTS

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### *Credit Card Fraud Detection(Cross Validation Best Practices: Avoid Data Leakage).* [Link](#)

- Implemented advanced data sampling techniques, including Near Miss UnderSampling and SMOTE OverSampling to address class imbalance.
- Employed rigorous cross-validation methods to ensure robust model training and evaluation, utilizing key performance metrics such as accuracy, precision, recall, F1 score, and AUC-ROC
- Achieved significant improvements in model performance across various algorithms, highlighting the importance of proper data handling and validation strategies in predictive modeling for fraud detection.

### *Laptop Price Predictor(Advanced-Feature-Engineering).* [Link](#)

- Conducted a comprehensive analysis of laptop specifications and pricing data, involving meticulous data cleaning, feature engineering and exploratory data analysis to identify key factors influencing laptop prices.
- Developed robust predictive models using advanced algorithms such as Random Forest and XGBoost, with hyperparameter optimization via OPTUNA, and evaluated model performance based on various metrics

### *EDA on Video Game Sales 🎮 Using Vega-Altair.* [Link](#)

- Utilized Python programming language along with data visualization libraries like Altair and Pandas to conduct a comprehensive analysis of video game sales data.
- Examined sales performance across various regions, platforms, publishers, and genres to identify trends and top-selling titles within the video game industry.

## EDUCATION

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### Bharath Institute of Higher Education & Research

*Bachelor of Technology in Mechanical Engineering*

Chennai, India

Aug 2016 - May2020

- CGPA 7.8