

Sachin Asokan

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EDUCATION

Industrial Engineering

Purdue University • US, Indiana, West Lafayette • 2023 • GPA: 3.6

Mechanical Engineering

Anna University • India • 2021 • GPA: 3.3

EXPERIENCE

Project Lead

Dauch Center for the Management of Manufacturing Enterprises

August 2022 – May 2023, West Lafayette, United States.

- Spearheaded a team of five in creating a supply chain tool to address challenges across 96 counties in Indiana, empowering customers to access regional product information.
- Leveraged ETL processes to assess and verify the accuracy of company data, maintaining a well-organized MySQL database.
- Implemented web scraping techniques with ParseHub to streamline the data gathering phase of the ETL process, reducing data collection time by 50%.
- Provided mentorship and guidance to junior team members, leading to a 25% increase in team productivity and a significant improvement in individual skill sets over the course of the project.
- Collaboratively defined project goals and established strategic plans with the team, ensuring a clear vision and direction that led to successful project completion and improved overall team performance.

Data Scientist

Bayer

August 2022 – December 2022, West Lafayette, United States.

- Project in Collaboration with Bayer and Purdue University.
- Handled missing data in genetic marker datasets by implementing zero imputation, enhancing the accuracy and reliability of subsequent predictive analysis for phenotypic traits.
- Implemented a data pipeline that divided imputed marker datasets by population generating insights and analysis on per population basis.
- Constructed a new SQL database on cluster 2, integrating both imputed marker and phenotypic data. This Standardized data repository supported efficient data retrieval and analysis.
- Developed Mixed Linear model to predict yield utilizing features such as Genetic markers and environmental features achieving an r-squared value of 0.2.

Data Analyst

Wabash National

July 2022 – August 2022, West Lafayette, Indiana

- Project in Collaboration with Purdue and Wabash National.
- Conducted univariate exploratory data analysis on telematics data for Wabash trucks across the United States.
- Established geofences around 70+ distribution centers for geospatial analysis, monitoring inventory levels over three years to drive informed business decisions.
- Optimized parallel processing pipelines using Dask and Python for handling large dataset of size over 100 GB, achieving an 85% reduction in storage levels.
- Communicated key findings to stakeholders using Data Visualization techniques such as Tableau, Matplotlib and Seaborn and influenced key business decisions by optimizing inventory with a projected annual profit of five percent. Documented Project metrics, results, business objectives and outcomes.

PROJECTS

Amazon Sentiment Analysis (NLP, Unstructured Data)

- Developed and Executed a Bidirectional GRU neural network model to conduct sentiment analysis on a robust dataset of Amazon product reviews to investigate consumer feedback to bring business impact and recommend solutions to improve systems.
- Streamlined data preprocessing by leveraging FastText for effective text encoding of review data, leading to an impressive classification accuracy of 90%, demonstrating the model's high performance and reliability in sentiment prediction.

Object Detection and Localization (Computer Vision)

- Crafted a ResNET architecture boasting 98 layers and 150 million parameters, featuring cross entropy and IOU loss functions to enable precise object detection and localization with an impressive 90% accuracy rate.
- Solved Vanishing Gradient problem by employing Skip Blocks.

Parkinson's Disease Classification (Predictive Modeling, Structured Data)

- Tackled class imbalance issues by implementing Borderline SMOTE and utilized classification algorithms like Random Forests and SVM, resulting in high precision and recall of 0.93.
- Minimized false-negative rates to near-zero levels, significantly enhancing prediction quality and achieved a classification accuracy of 98 percent.

SKILLS

Programming: C++, Arduino, Python, R

Libraries: PyTorch, TensorFlow, Keras, Scikit-Learn, Statsmodels, Scipy, Pandas, Dask, Numpy.

Database: Postgres SQL, MySQL.

BI Tools: Tableau.

Visualization: Matplotlib, Seaborn, Geopy, Geopandas, Plotly, Folium.

Cloud: AWS

Algorithms: Regression, Classification, Clustering, Deep Learning and Time Series.

Mathematical Core: Statistics and Probability, Linear Algebra, Multivariate Calculus, Optimization.