PARAMPREET SINGH

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PROFILE

A highly motivated MSCS Candidate with a strong work ethic and unwavering integrity, skilled in machine learning and data analytics, seeking opportunities to apply my expertise in delivering innovative and impactful solutions.

- **Tools & Technologies**: AWS (Sagemaker, Redshift, Quicksight, EMR), Apache Spark, ETL (AWS Glue, Informatica), Hadoop, MS Office, Git, MATLAB, SQL, Python (TensorFlow, PyTorch, Scikit-Learn, Pandas, matplotlib), C, C++, R
- **Modelling:** A/B Testing, Regression(OLS, Ridge, Lasso, Logistic), PCA, SVM(Soft Margin), Clustering(K-Means, Spectral)
- **Certifications:** AWS Machine Learning Specialty, Tableau Desktop Specialist, SQL (HakerRank), MATLAB On-Ramp

EDUCATION

Clemson University — **South Carolina, United States**

Master's in Computer Science, CGPA – 4.0/4.0 — ***Aug 2022 – present***

Highlighted Coursework: Statistics, Artificial Intelligence, Applied Data Science, Advance Machine Learning, Deep Learning for Computer Vision, Database Management Systems, Data Mining, Data Analysis

Punjab Engineering College (Deemed to be University) — **Chandigarh, India**

B.Tech, Mechanical Engineering, CGPA – 8.2/10 — ***Aug 2016 – June 2020***

Secured A+ for capstone project 'Multi-Sensor Fusion for Adaptive Cruise Control and Lane Keep Assist on RC Car.'

PROFESSIONAL EXPERIENCE

Clemson University — **South Carolina, United States**

IT Consultant (Graduate Assistantship) — ***Oct 2022 – Present***

- Collaborated in deploying an IT asset management database, including data population in Microsoft Access, migration to Azure SQL Database and developing a front-end interface in Access for **secure cloud-based data management**.
- Successfully maintained **90% one-week closure rate** while handling IT trouble tickets for a customer base of 500 users.
- Led the development of streamlined IT asset inventory procedures, **boosting efficiency by 50%** in asset data collection, device imaging, periodic asset tracking and distribution.

Maruti Suzuki India Ltd — **Gurugram, India**

Assistant Manager, Product Planning, R&D Vertical — ***July 2020 – July 2022***

- Performed sales trend analysis to drive business strategies for a **130MM project** by analyzing IHS and IQS data reports.
- Proposed **0.5%** projected improvement in market share by conducting new model market research in 5 diverse regions.
- Bagged the divisional quarterly performance award for implementing variant strategy in the sedan segment.

Highlighted Project: Team Lead, Second-Hand Car Value Prediction Model

- Led a 5-member team into developing a second-hand car value prediction model increasing **profitability by 4%.**
- Evaluated regression, random forest, and ensemble methods, achieving a **90%+ R-squared score** leveraging XGBoost.
- Delivered easy and efficient handling of API requests by deploying the trained model to production on Amazon AWS EC2 instance, utilizing an Ubuntu server, Nginx web server configured as a reverse proxy, and Python Flask server.

Mahindra Research Valley — **Chennai, India**

Research Intern — ***Jan 2019 – May 2019***

Frictional Power Loss Distribution at Component Level in Automotive Rear Axles

- Attained an impressive **92% R2 score**, forecasting rear axle power loss split, using mathematical modeling in MS Excel.
- Achieved a **3% increase** in fuel efficiency by proposing significant design improvements, derived from research results.
- Research published in SAE International: Analysis and Evaluation of Power loss Distribution of Experimental data

PROJECTS

Movie Recommender System — ***May 2023 – July 2023***

- Developed an advanced movie recommendation system integrating **Matrix Factorization** with **Collaborative Filtering**.
- Conducted Exploratory Data Analysis, data preprocessing, and model training on the Netflix Dataset using **Python**.
- Achieved a **7% reduction** in RSME and MAE by leveraging Singular Value Decomposition + Collaborative Filtering over Probabilistic and Non-Negative Matrix Factorization techniques.

Continuous Affect Recognition from Multimodal Signals in Videos — ***Jan 2023 – May 2023***

- Developed a deep learning model to predict emotional metrics in videos, achieving a correlation coefficient of **0.3** for arousal and **0.45** for valence by jointly training audio and video features.
- Implemented facial alignment and Short-Term Fourier Transforms for video and audio preprocessing, enhancing feature extraction in a SphereFace-LSTM Net and a modified VGG16, respectively, to predict emotional annotations.