

# HARNAIN KAUR SARDARNI

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## OBJECTIVE

As a Data Science graduate, I am deeply invested in leveraging data to generate impactful insights. My educational journey has equipped me with a robust understanding of R, along with practical experience in Python, setting a solid foundation for my analytical skills. I am enthusiastic about further developing my expertise in AI and broadening my programming skills.

## EDUCATION

### DePaul University, Chicago, Illinois

#### ***Master of Science in Data Science, Computational Methods | June 2024***

Granted merit based scholarship

Coursework: BI and Analytics Systems, Programming Machine Learning Applications, Database, Time series analysis forecasting, Intelligent information retrieval, Computational Analysis using Matlab.

### Institute of Insurance and Risk Management, Hyderabad, India

#### ***Post Graduate Diploma in Business Analytics | May 2022***

Coursework: Database, Statistical Analysis Tools using SPSS and SAS, Python and R Programming, Principle of Insurance, and Communication Management.

### Loyola Academy Degree and PG College, Hyderabad, India

#### ***Bachelor of Commerce in Computers | June 2021***

Coursework: Business statistics, Business Economics, Financial and Corporate Accounting, Database, Web Programming, Business Law, Taxation, Human Resources Management, Research, Marketing Management, Auditing and Accounting standard.

## PROJECTS

**Estimating nutrient mix concentration for an autonomous hydroponic vertical farm:** Developed and implemented predictive models including Linear Regression and Gradient Boosting to optimize nutrient management in the hydroponic vertical farming systems. Achieved significant improvements in nutrient concentration forecasting accuracy, enhancing the plant growth outcomes and operational efficiency in agricultural settings.

**Predicting Obesity Levels using Machine Learning:** Led research on predicting the obesity levels using machine learning, applying feature engineering and evaluating seven models including LightGBM and XGBoost. Achieved high accuracy and robust predictive capabilities, by focusing on effective model selection and performance optimization.

**Ames Housing Price Prediction:** Applied Gradient Boosting model to achieve a validation R<sup>2</sup> score of 0.940, with RMSE of 20,214.73 and MAE of 13,529.91, optimizing accuracy in house price predictions.

**Movie Text Classification:** Implemented and tuned Multinomial and Gaussian Naive Bayes models for accurate movie genre classification and box office prediction using text data.

**A Study of Injuries Among NFL Athletes:** Developed dynamic Power BI dashboards to analyze NFL injury data, enhancing organizational decision-making and promoting a culture of real-time, data-driven analysis.

**Traffic Crash Analysis:** Developed a logistic regression model to pinpoint key predictors of traffic accident severity and proposed enhancements using geospatial data to mitigate traffic jams.

**Data Analysis and Machine Learning on Yelp Dataset:** Applied Python, NLP, and ML techniques to accurately predict Yelp ratings and performed geospatial analysis to enhance user engagement and business strategies.

**Credit Card Fraud Detection Using Machine Learning:** Engineered and optimized machine learning models to detect credit card fraud with a high accuracy rate, adapting continuously to emerging fraud patterns.

**Bayesian Belief Network - Educational Behaviors During COVID-19:** Created a Bayesian Belief Network to evaluate the impact of wellness and media habits on educational engagement during the pandemic, providing data-driven insights for educational policy.

**Financial Analysis Project, Fortune 500 Companies:** Led a team in using R to analyze and forecast financial performance of top Fortune 500 companies, employing ARIMA models and advanced data visualization to present insights on CEO impacts.

## **SKILLS**

**Programming languages:** Python, R, Java, HTML, CSS, JavaScript, C, C++

**Data analysis and visualization tools:** SPSS, Tableau, SAS

**Other software:** Microsoft Excel, Microsoft Office, DBMS, SQL, Tally , Matlab

**Soft skills:** Adaptability, flexibility, critical thinking, active listening, organizational skills