**Data Wrangling & Visualization**

* Cleaned, merged and manipulated datasets and conducted **feature engineering using Pandas**
* Created various charts in **Spyder** using **Matplotlib** to perform a preliminary analysis on the collected data

**Python Machine Learning - Clustering & Classification**

* Applied various **machine learning techniques using Python** to build **dynamic pricing models** and maximise profits
* Developed segmentation models using **K-means Clustering** for exploring new user segments
* Predicted a customer’s likelihood to book hotels at a given point in time based on the booking points
* Created a **recommendation engine** to suggest an ideal cluster price for various identified hotel segments
* Conceptualised and implemented a **sentiment analysis** tool to rate hotels based on subjective customer reviews
* Created **multivariate regression**-based attribution models using ad stock analysis from digital marketing data

**Algorithm Development & Optimisation**

* Developed an algorithm for yield management using the concept of price elasticity of demand
* Deployed multiple **loss minimisation & optimisation techniques**
* Led the development of a hotel performance assessment and pricing analysis platform created via **k-NN Algorithm**

**Key Achievements**

* Achieved a MoM **14% increase** in revenue through the application of dynamic pricing
* Successful in an overall **loss reduction of 10%** on monthly revenue by implementing the loss minimisation techniques

**Analytics & Machine Learning Methodologies**

* Conducted extensive research on **revenue management** and **pricing analytics** in the hospitality sector
* Applied various **machine learning techniques** to build **dynamic pricing models** and maximize profits
* Gathered pricing data from different aggregators by performing web scraping in Python for competitive analysis

**Optimization & Algorithm Development**

* Developed an **algorithm** for **yield management** using the concept of price elasticity of demand
* Deployed multiple **loss minimization** & **optimization techniques**
* **Led** the development of a **hotel performance assessment** and **pricing analysis platform** created via **k-NN Algorithm**
* Created a **recommendation engine** to suggest an ideal cluster price for various identified hotel segments

**Statistical Modelling & Analysis**

* **Created multivariate regression-**based **attribution models** using ad stock analysis from digital marketing data
* Developed **segmentation models** using **K-means Clustering** for exploring new user segments
* Predicted a customer’s likelihood to book hotels at a given point in time based on the booking points
* **Conceptualized** and implemented a **sentiment analysis tool** to rate hotels based on subjective customer reviews

**Key Achievements**

* **Established** the Data Sciences **division** from scratch by **recruiting** a team of **8 Data Analysts**
* Deployed R to develop a customer segmentation algorithm for boosting sales leads and increasing **market share** by **28%**
* Utilized data mining techniques to resolve a shipping consolidation issue & achieve **cost reduction** of **INR 3.2 million**
* Achieved a MoM **14% increase** in revenue through application of dynamic pricing
* Successfully achieved a **10% loss reduction** of monthly revenue by implementing loss minimization techniques

**Regression Modelling**

* Directed **model development**, **validation**, testing and **implementation** of analytical products and applications
* Developed an **additive scoring model** for **QSM** & a **logistic regression model** to yield a **K-S statistic of 51.5**
* Tested and **implemented decision trees, random forests** and **ensemble models** via bagging and boosting

**Data Management & Data Mining**

* Deployed **advanced text mining algorithms** to identify search intent latent in individual keywords
* Employed **Principle Component Analysis** to analyze collinearity and reduce the dimensionality of datasets
* Applied **Bayesian Model Averaging (BMA)** to combine individual keyword-level models

Tableau

***Environment:*** *Tableau Desktop, Tableau Server, SQL Server, MS Access, Windows 2007 Server*

**Requirement Gathering & Reporting**

* Analysing **user requirements** and validating the available data to propose usable designs
* Interacting with multiple stakeholders to gather **business needs** & developed technical specs
* Conceptualising and developing novel **reports, dashboards & KPI scorecards** on Tableau
* Publishing and **sharing reports** with the business users on the **Tableau Server**
* Converting pre-existing Excel based reports to **Tableau dashboards**

**Data Blending & Transformation**

* Accessing & transforming massive datasets through **filtering, grouping, aggregation, & statistical calculation**
* **Connecting different data sources** to extract uniform data & create views that deliver important insights

**Data Visualisation & Business Intelligence**

* Deploying rich **graphical visualisations** in **dashboards** to create effective views of data such as:
* Line Charts, Bar Charts, Pie Charts, Scatter Plots, Histograms, Tree Maps, Heat Maps, Area Charts, Gantt Charts, Bullet Graphs in Tableau Desktop
* Implementing advanced Tableau features such as **parameters, table calculations, sets, groups**, user filters to deliver highly usable dashboards
* Highlighting views by using **Annotations** (Points, Marks, Area, etc.) wherever required
* Creating different KPIs using **calculated key figures** and **parameters**
* Creating Tableau Dashboards with **interactive views, trends and drill downs** along with user level security

**User Support**

* Rendering **production support** to Tableau users & writing custom SQL to support business requirements

***Environment :*** *Windows XP, Linux, Windows 7****,*** *Tableau, Tableau Server ,SQL Developer, MS-SQL 2008 R2, MS-Access, MS Excel and SQL, Java , JavaScript, SQL ,VB*

**Requirement Gathering & Dashboard Development**

* Liaised with business stakeholders to **gather requirements** & manage delivery
* Developed **rich dashboards** using Tableau Desktop to deliver actionable insights
* Connected **Tableau server** with share-point portal and setup **auto refresh feature**
* Actively involved in all phases of development from **analysis** through **implementation** and support

**Data Visualisation & BI**

* **Developed** **visualisations** to clearly demonstrate department **spend analysis**
* **Defined** and incorporated **KPIs** for customer satisfaction as well as customer acquisition

**Data Blending & Security**

* Controlled user access by restricting data for particular users using **Row level security** & **User filters**
* Developed **Tableau workbooks** from multiple data sources using **Data Blending**
* Created & maintained SQL scripts, indexes, & complex queries for **data analysis and extraction**

**User Support & Issue Resolution**

* Resolved end user reporting problems through collaboration with IT and Operations