# CS3IP Project Definition Form

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| Course: BSC COMPUTER SCIENCE W/ PLACEMENT |
| Project title: Car Data Set Analysis |
| Supervisor: Hassan Aqeel Khan |
| Date: 04/10/2023 |
| Project overview:  In the project "Car Data Set Analysis," we will not only focus on car and insurance data but also incorporate crash data to gain a comprehensive understanding of vehicle safety and risk assessment. By analysing the combined dataset, we can identify patterns and correlations between car features, insurance claims, and crash incidents. This analysis will provide valuable insights to the insurance company, enabling them to make informed decisions regarding insurance premiums, safety ratings, and policy adjustments. By leveraging data science techniques, particularly using Python, we can derive meaningful conclusions that contribute to improved car safety and more accurate risk evaluation. |
| Project deliverable:  For the project "Car Data Set Analysis," the deliverables will encompass a comprehensive report that presents a detailed analysis of the car, insurance, and crash data. This report will highlight the key insights and trends discovered through the implementation of various data science techniques, predominantly utilizing Python. It will include in-depth visualizations, statistical analyses, and descriptive summaries to effectively communicate the findings. The deliverables will equip the insurance company with valuable information for making informed decisions regarding vehicle valuation, risk assessment, and policy adjustments. By providing actionable insights, this project will contribute to enhancing the company's operations and ensuring accurate and fair insurance practices. |
| What is interesting & useful about this project?  This project is not only interesting but also highly useful. By analysing the car, insurance, and crash data, we can unlock valuable insights that can have a significant impact on the insurance company's operations. Through data science techniques, such as statistical analysis and machine learning, we can uncover patterns and correlations that contribute to more accurate vehicle valuations, improved risk assessment, and policy adjustments. This project empowers the insurance company to make data-driven decisions, ensuring fairness and accuracy in their practices. It's fascinating to witness how data analysis can revolutionize the automotive and insurance industries, |
| Outline Project Timetable:  This will be the Overall Project Timetable:  1. Data Gathering and Preparation - During the first week, we'll focus on collecting the car, insurance, and crash data from reliable sources. This may involve accessing databases, APIs, or other data repositories. Once we have the data, we'll need to clean and inspect it to ensure its quality and consistency. This step is crucial for accurate analysis.  2. Exploratory Data Analysis - In the second week, we'll perform something called Exploratory Data Analysis (EDA) on the collected data. EDA involves using descriptive statistics to understand the characteristics of the data, such as mean, median, and standard deviation. Additionally, we'll visualize the data using charts and graphs to identify any patterns or trends that may exist. This step helps us gain insights into the data before diving deeper.  REFERENCE FOR EDA DATA ANALYSIS: https://online.hbs.edu/blog/post/types-of-data-analysis  3. Data Analysis and Modeling - Weeks 3 and 4 will be dedicated to the actual data analysis and modelling phase. We'll apply various data science techniques to analyse the data and uncover insights. This may involve using statistical analysis methods, machine learning algorithms, or other advanced techniques depending on the project's requirements. If applicable, we'll also build predictive models to forecast future trends or outcomes.  4. Results and Insights - In the fifth week, we'll summarize the findings and insights derived from the analysis. We'll compile the results into a comprehensive report that highlights the key discoveries and their implications. Visualizations, such as charts, graphs, and diagrams, will be included to effectively communicate the results to stakeholders. This step is crucial for making informed decisions based on the data analysis.  5. Finalize Project Deliverables - The final week of the project will be dedicated to finalizing the project deliverables. We'll review and refine the project report, ensuring that it is clear, concise, and accurately represents the analysis performed. Additionally, we'll prepare a presentation to showcase the findings to stakeholders, providing an opportunity for further discussion and feedback.  This is just a general outline, and the actual timeline may vary depending on the complexity of the data and the specific analysis techniques employed. |