**Name:** Gowtham Loganathan

**Milestone 1:** Project Proposal

**Project Title**: Exploring Data Science Job Trends through Data Visualization

**Project Type:** Individual Project

**Focus Area:** Data Pre-processing and Visualization

**Research Questions:**

1. What are the key trends in data science job postings, including salary distribution, required skills, job locations, and demand over time?
2. How do salary trends vary across different regions and job titles in data science field?
3. What are the most in demand skills for data science roles? How do they differ by job category?

**Guiding Framework:** This project is guided by principles of business analytics and labour market analysis. The focus is on extracting meaningful insights from publicly available job data to help job seekers and industry professionals understand current hiring trends in Data Science.

**Dataset:** The dataset "Data Science Job" is publicly available on Kaggle and contains job postings for data science roles. It includes information on job titles, locations, salaries, company names, and required skills. Since the dataset is publicly accessible, there are no privacy concerns or IRB requirements.

**Planned Visualizations:**

* Salary Distribution & Trends Over Time: Box plots and histograms to show salary ranges across job titles and locations. Line charts to track salary evolution in different regions and job titles.
* Skills Demand: Grouped bar charts to illustrate the most in-demand technical and soft skills across different job categories.
* Geographical Distribution: Maps and heatmaps to highlight job availability across different regions.
* Industry Trends: Time-series analysis to examine changes in demand for data science roles over time.

**Feasibility & Tools:** The project is feasible within the given timeline. I will use Python libraries such as Pandas for data preprocessing, Matplotlib and Seaborn for visualizations and Plotly for interactive dashboards. The final outputs will be shared on GitHub.

**Citation Style:** APA citation style will be used for referencing the sources.

**Expected Outcome:** By the end of this project, I aim to provide a comprehensive visual analysis of data science job trends, offering valuable insights for job seekers, recruiters, and educators. The project will serve as an example of how data visualization can be leveraged for market analysis.