**Project Overview:**

The primary objective of this project is to develop and evaluate object detection models using Faster R-CNN and MobileNet SSD v2 architectures. The models will be trained on a dataset sourced from Roboflow, which will encompass a variety of object classes and diverse scenarios. The project will involve the following key components:

1. **Data Collection and Preparation:**
   * Download and preprocess the dataset from the provided Roboflow name resized640\_aug3x-plusMosaic <https://universe.roboflow.com/roboflow-universe-projects/traffic-survey-990mh/dataset/3>
   * Organize the dataset into appropriate train, validation, and test sets.
2. **Model Implementation:**
   * Implement the Faster R-CNN and MobileNet SSD v2 architectures using a deep learning framework such as TensorFlow or PyTorch.
   * Fine-tune the models on the prepared dataset using appropriate training techniques.
3. **Model Evaluation:**
   * Compute the following evaluation metrics for both models:
     + Precision, Recall, F1-Score
     + mAP@0.5, mAP@0.5:0.95
     + Inference Time (ms)
     + Create a Google Colab notebook containing the source code, training procedure, and evaluation metrics calculations.
     + Visualize the evaluation metrics using graphs and charts for easy understanding.

**Deliverables:**

Upon completion of the project, the following deliverables will be provided:

1. Google Colab notebook containing the complete source code, including model implementation, training, and evaluation.
2. Trained Faster R-CNN and MobileNet SSD v2 models.
3. Visualizations of evaluation metrics.

**Timeline:**

The project is estimated to span approximately 5 days.

**Conclusion:**

This project seeks to leverage the power of Faster R-CNN and MobileNet SSD v2 models for accurate object detection. By utilizing the provided dataset from Roboflow, I aim to find the models' capabilities in terms of precision, recall, F1-score, mAP, and inference time. The results will not only provide insights into the models' performance but also contribute to the understanding of their suitability for different scenarios.

I appreciate your consideration of this task and look forward to the opportunity to work on this exciting and challenging endeavor.