Project Plan

**Name:** Chun Kin Cheung

**Project Title:** Estimation of Postal Service Delivery Time via Machine Learning

**Supervisor’s Name:** Carlo Ciliberto

Aims and Objectives

**Aim:**

To improve the estimation of postal service arriving time with higher accuracy by modelling and implementing the service as Machine Learning solutions, starting with route optimization.

**Objectives:**

* Collect large traffic data set, including road congestion rate at different hours, traffic light locations and destinations for the learning model.
* Review algorithms and techniques to route optimization problem. Analyse each methods pros and cons and determine the most suitable method for the scenario.
* Develop the learning model and software tools to process collected data.
* Calculate errors and graphical data to justify the effectiveness of the model.
* Expand the model with more parameters outside of traffic concerns to improve its suitability for generating a more realistic solution.
* Evaluate the effectiveness of the solution compared to current postal service by leading companies in the sector.

**Deliverables:**

* Design specification for the learning model
* Documentation for the learning model with functional algorithms and error analysis.
* Data set used for the model to learn and test.
* Review and justification of the result obtained.

**Work Plan:**

**25/09/2023 – 12/11/2023** – Literature Review. Research the current Postal Service market and identify its challenges.

**06/09/2023 – 03/12/2023** – Data Collection. Obtain required data suitable for constructing a learning model by going through open-source databases and websites.

**04/12/2023 – 31/12/2023** – Analysis and Modelling. Analyse collected data and design the learning model.

**01/01/2024 – 11/02/2024** – System Design and Implementation. Coding the learning model and carry out data testing.

**12/02/2024 – 03/03/2024** – Error Analysis and System Refinement. Carry out error analysis and adjust the model accordingly to enhance accuracy.

**04/03/2024 – 14/04/2024** – Result Evaluation / Final Report. Construct the Final Report based on the result generated by the learning model.

**14/04/2024 – 26/04/2024** – Project Review. Review and finalize the project with administrations. Submit project before 26/04/2024.

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