# Introduction

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# Task

The task is to train a reinforcement learning algorithm to improve the throughput of traffic at an intersection by optimising signal timing and patterns.

# Methodology

There were three main components involved in the development of an optimal policy for switching traffic signals.

## Simulation

A simulation that replicates the real-world intersection as closely as possible was created using Eclipse Simulation of Urban Mobility (SUMO).

## Modelling

A custom OpenAI Gym environment was created to interact with the SUMO intersection simulation.

Algorithms from Stable Baselines3 were trained using the Gym environment.

## Evaluation

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# Results

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# Ultimate Judgements

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# Conclusion

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