Waymo Fleet Profitability Optimizer

Aksel Kretsinger-Walters Alena Chan Andrey Aksyutkin Blake Sisson *

Problem Statement

One of the most promising and revolutionary applications of reinforcement learning is in the domain of autonomous robots, specifically self-driving cars. There are many challenges in this domain: intellectual, ethical, technical, and more. For our project, we've decided to narrow our focus to the specific problem of optimizing the profitability of a fleet of self-driving cars.

Monitoring, maintaining, and optimizing a large fleet of self driving cars is a complex problem, and one can quickly think of many dimensions that the problem takes on. Predicting demand, scheduling maintenance, recharging vehicles, setting competitive prices, maximizing coverage, minimizing wait times, and more are all separately non-trivial problems. Jointly optimizing across all of these dimensions and adapting to distribution shifts

*Collaborator(s): Aksel Kretsinger-Walters (adk2164), Alena Chan (ac5477), Andrey Aksyutkin (aa5499), Blake Sisson (mbs2246)