Brief Report

Project Name:

Supervisor: Yun Wu

Student: Jamie Smith

Date: 11/07/2025

Plan: 11/07/2025:

1. Configure parameters for real life MPC
2. Improve simulation by including simulated camera values as MPC input

Brief Report (any progress, thoughts, and development achievements):

1. **Achieved 2.56x Faster Line Following** – Line following at 2.56x speeds using a tuned PID controller.
2. **Video Recording** – Recorded and edited a progress video to highlight the speed increase achieved.
3. **MPC Line Following Simulation** – Developed line following using a model predictive controller within a Python simulation.
4. **File Efficiency** – All road following files, with the exception of one model training file, have now been converted to Python instead of Jupyter notebooks. This has led to faster load times.

Questions (any concerns related to development, progress, or supports):