

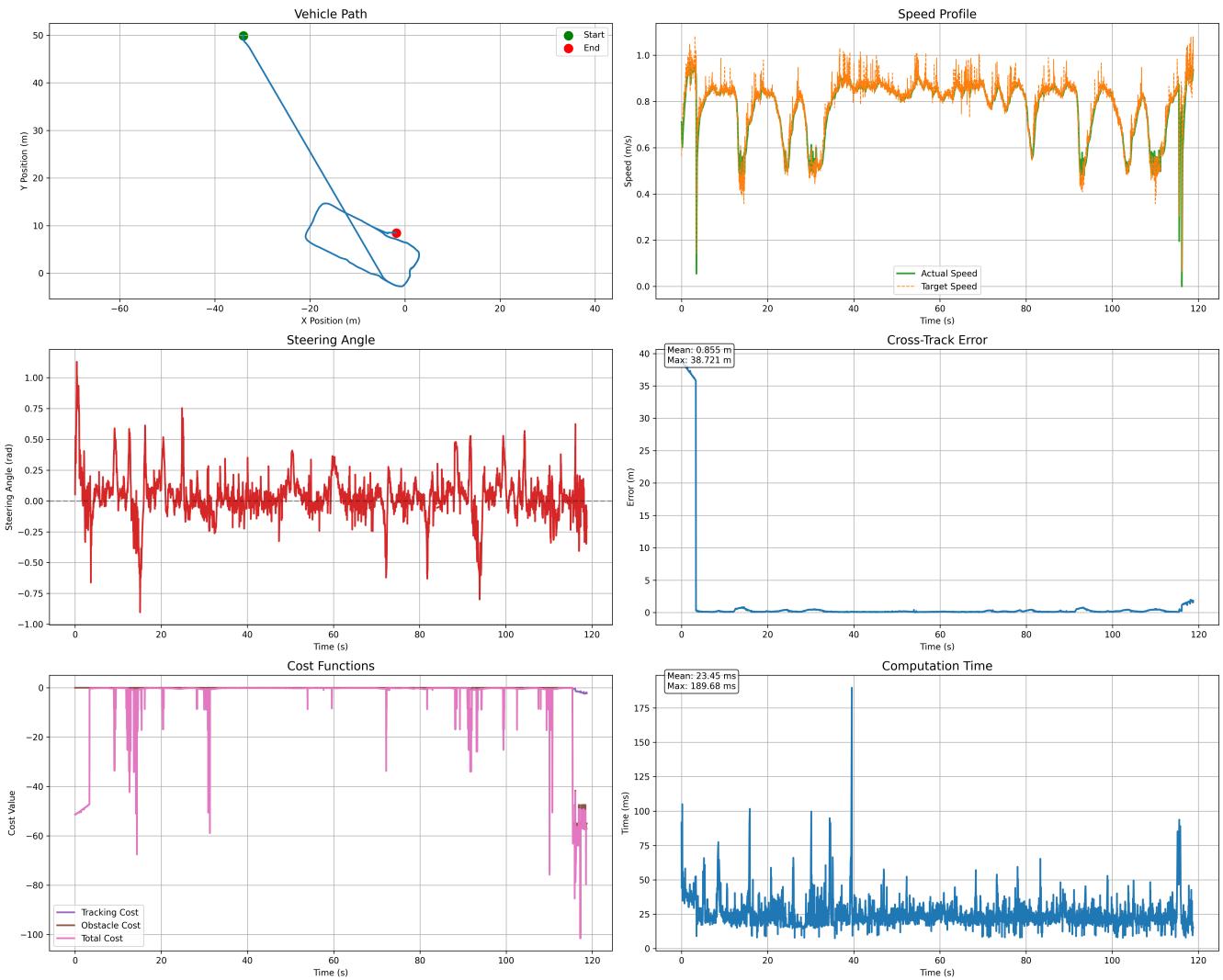
MPPI Controller Performance Report

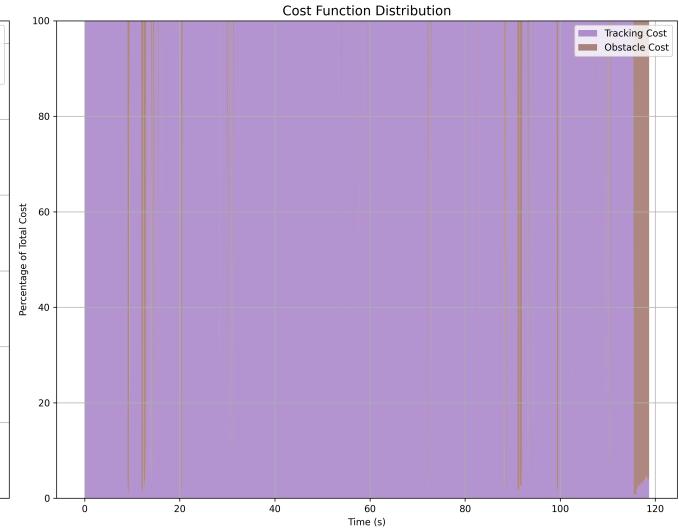
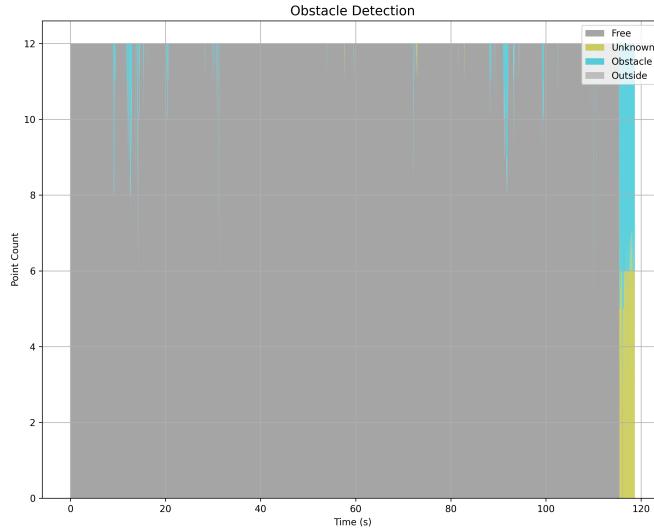
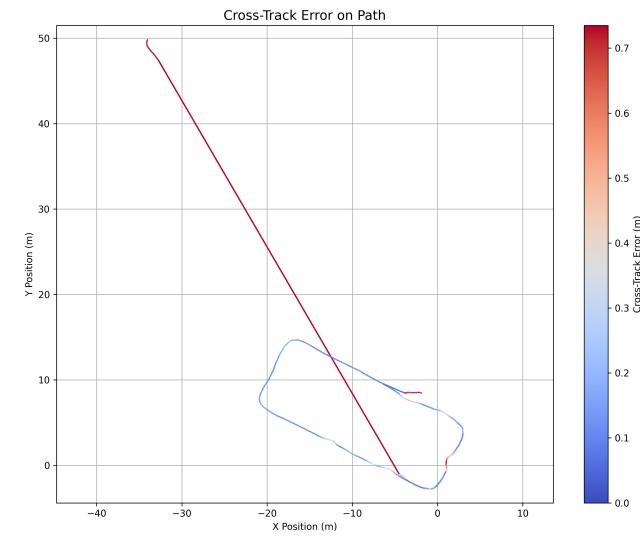
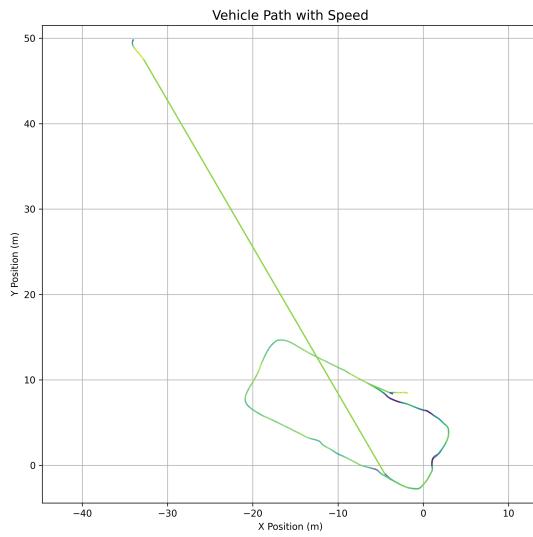
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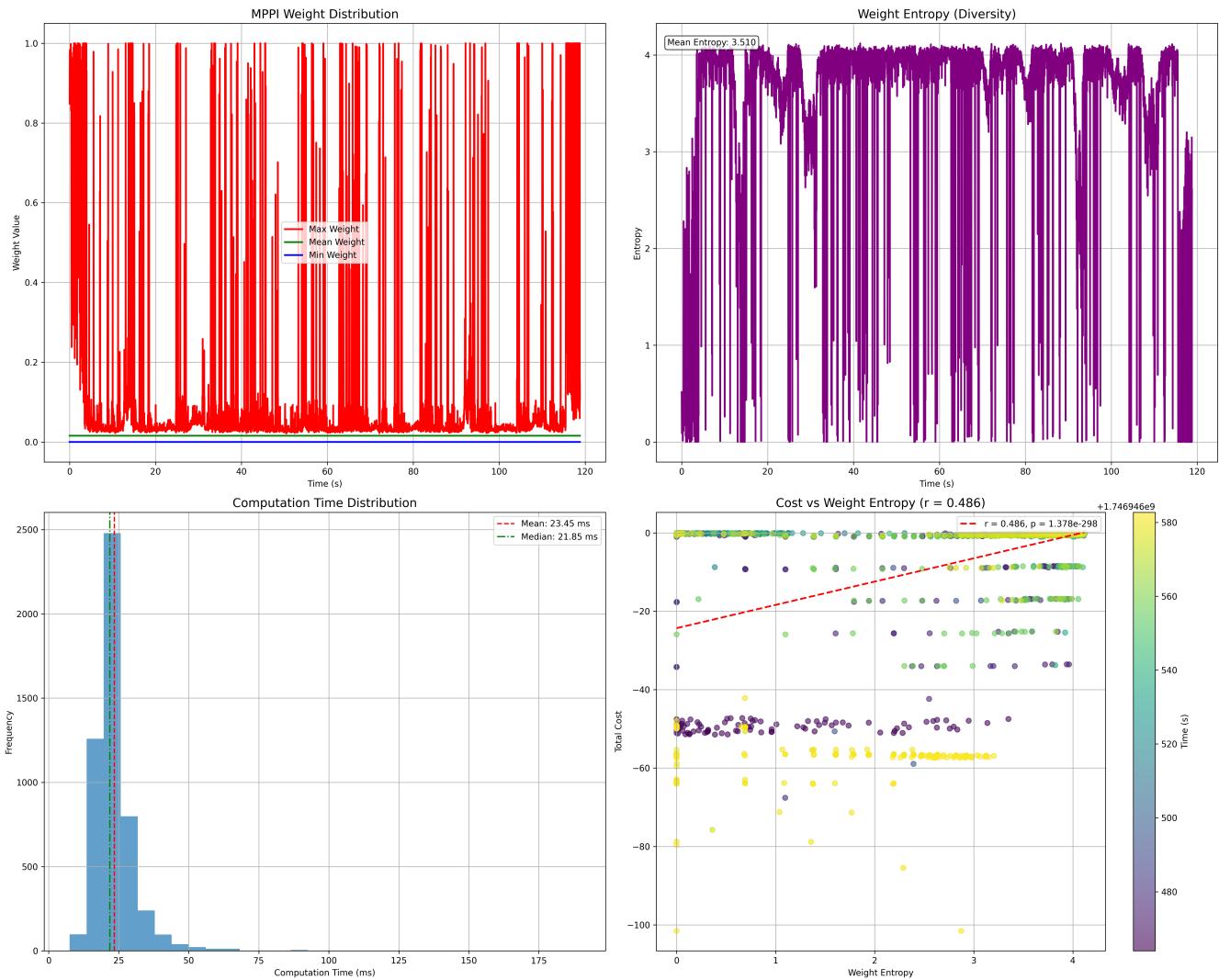
Summary Statistics

Metric	Value
Distance Traveled (m)	150.74
Average Speed (m/s)	0.78
Max Speed (m/s)	0.97
Average Cross-Track Error (m)	0.855
Max Cross-Track Error (m)	38.721
Average Computation Time (ms)	23.45
Max Computation Time (ms)	189.68
Average Weight Entropy	3.510

Performance Visualizations



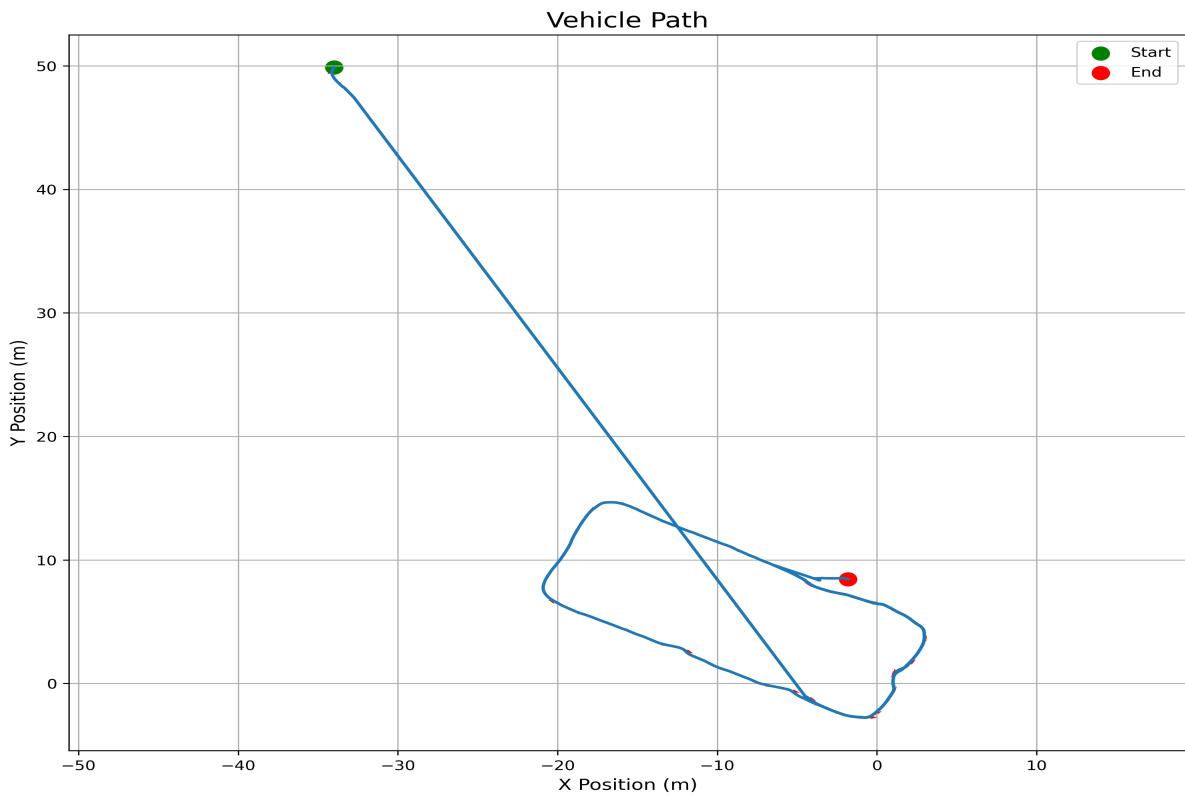




Detailed Metrics

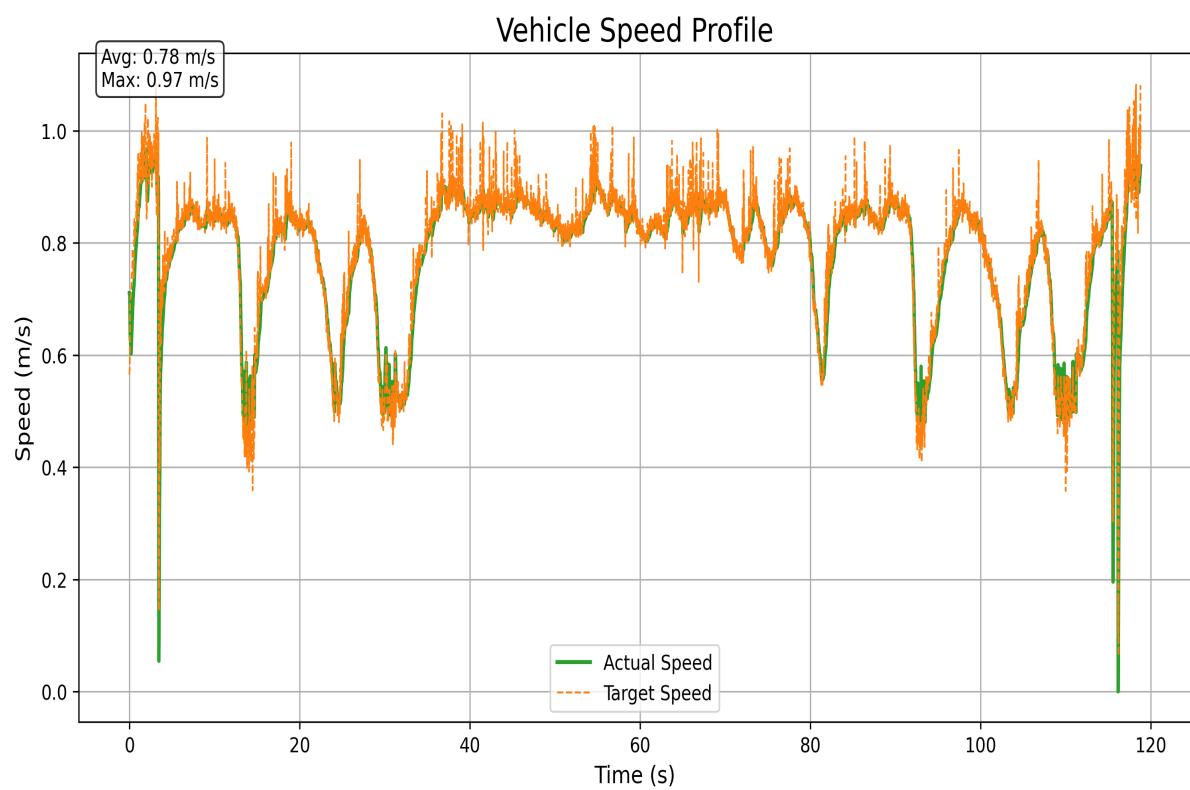
Vehicle Path

Vehicle path showing the trajectory followed by the vehicle.



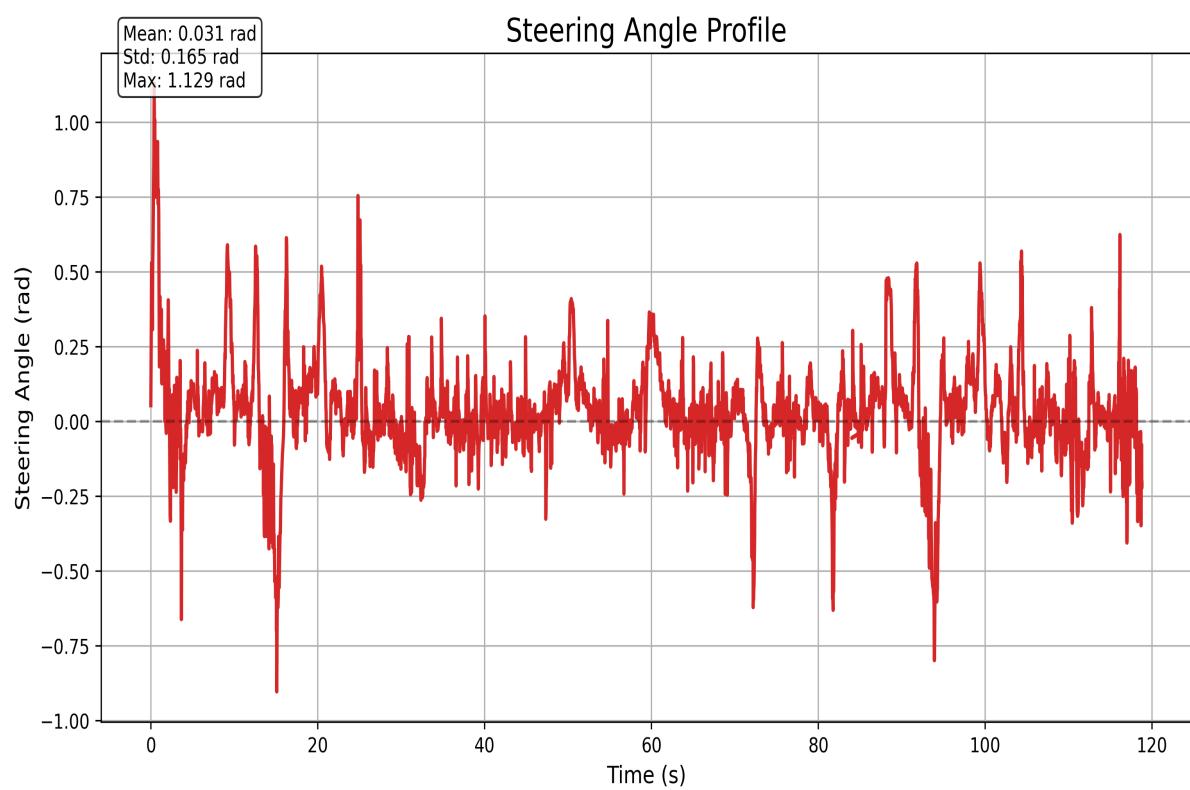
Speed Profile

Speed profile showing the actual and target speeds over time.



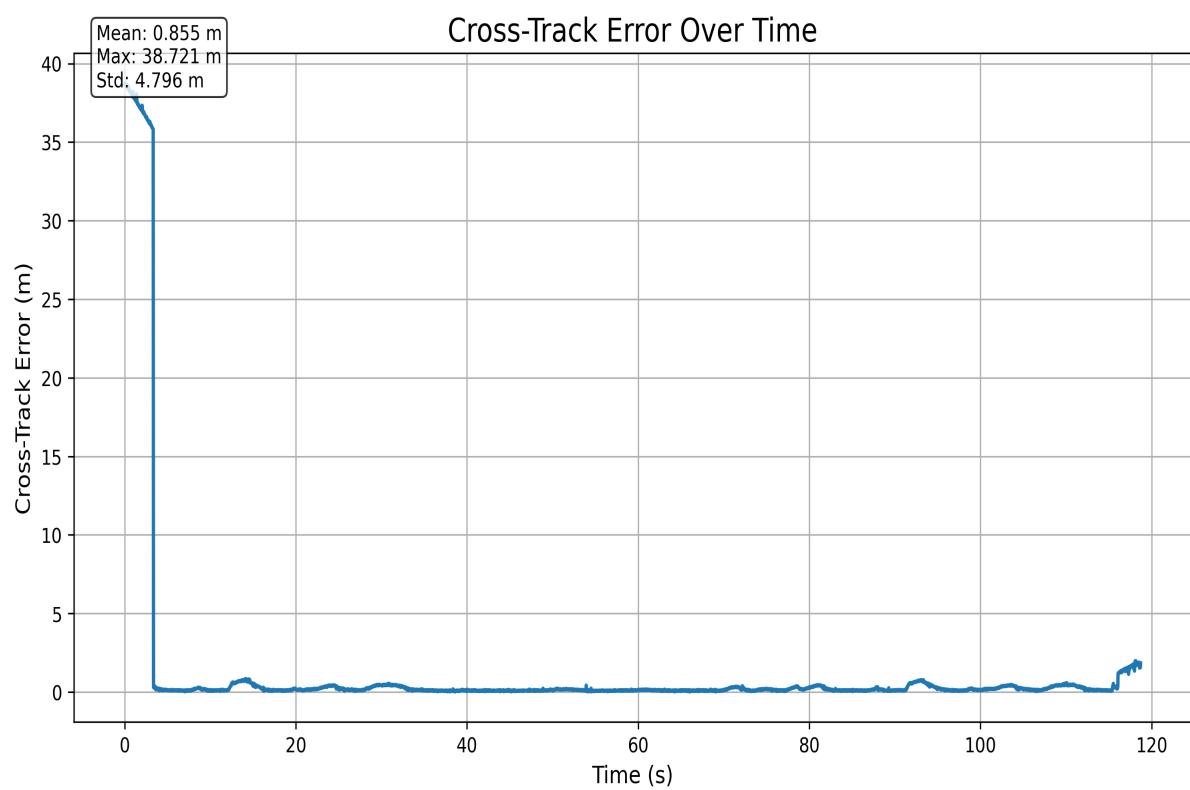
Steering Profile

Steering angle profile showing the control inputs over time.



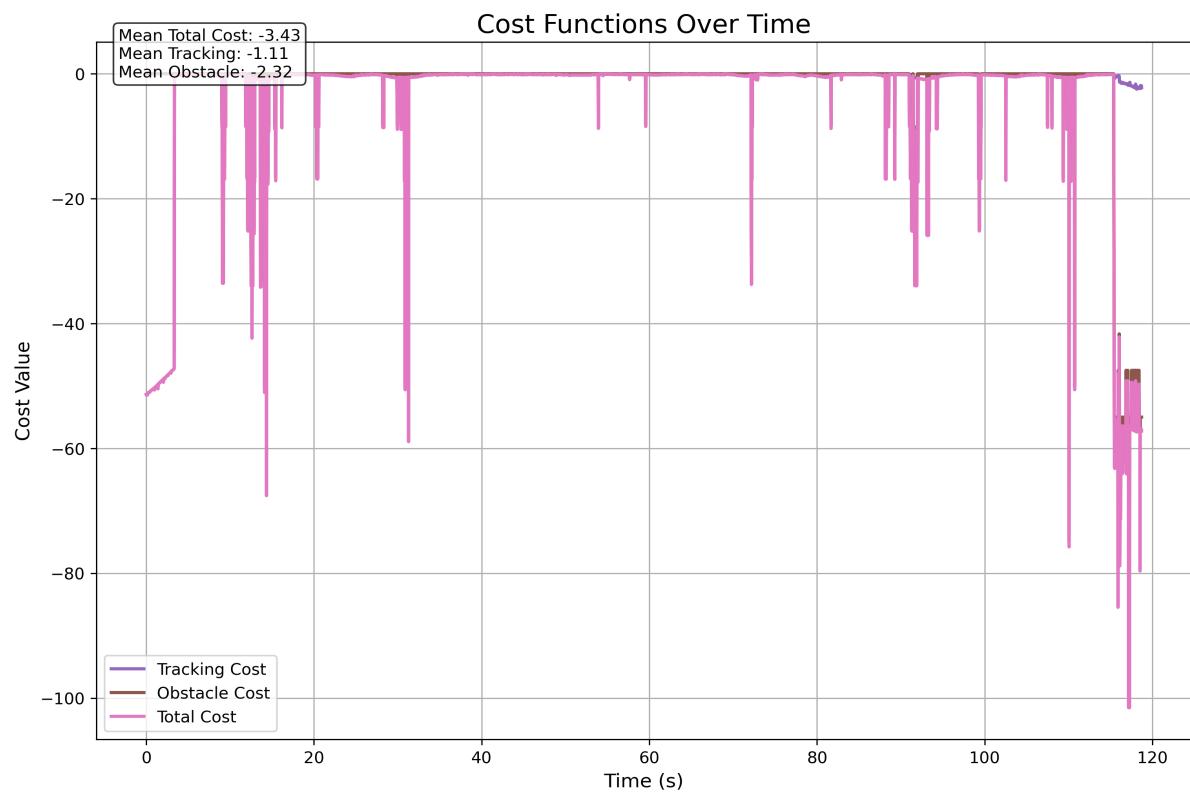
Cross Track Error

Cross-track error showing the deviation from the reference path.



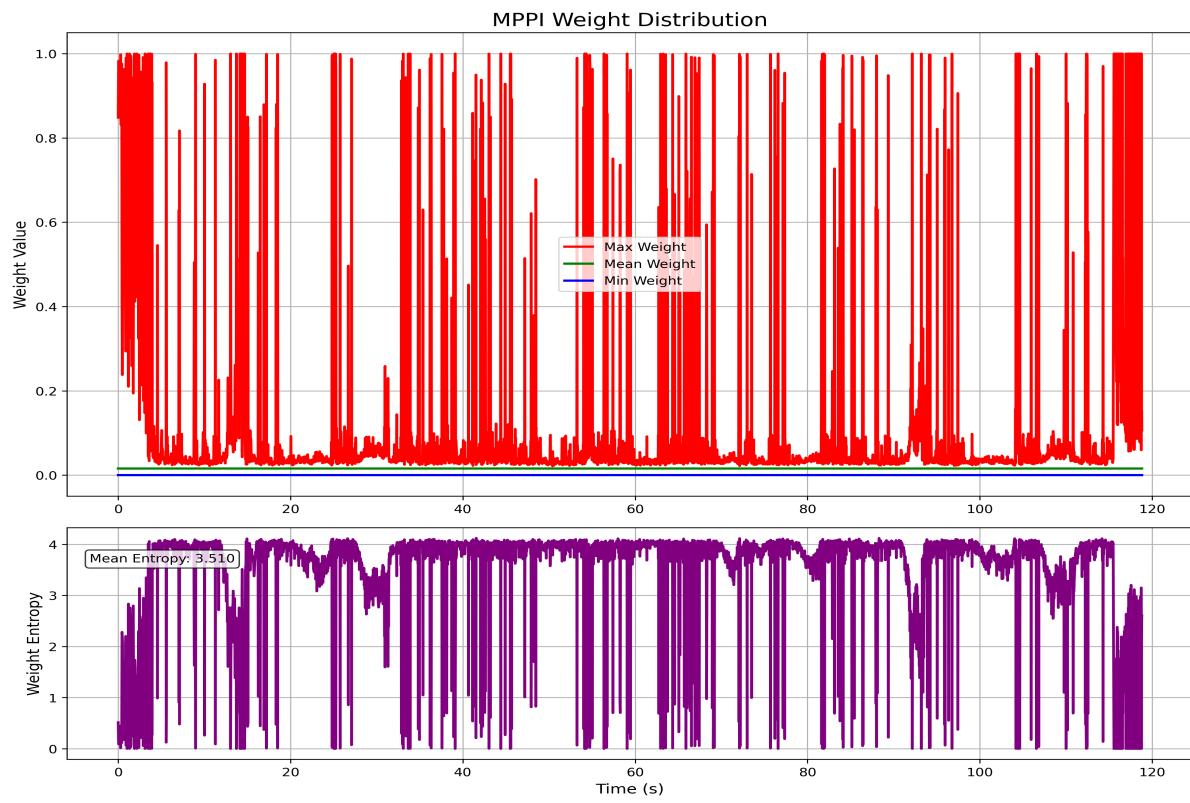
Costs Over Time

Cost functions showing the tracking and obstacle costs over time.



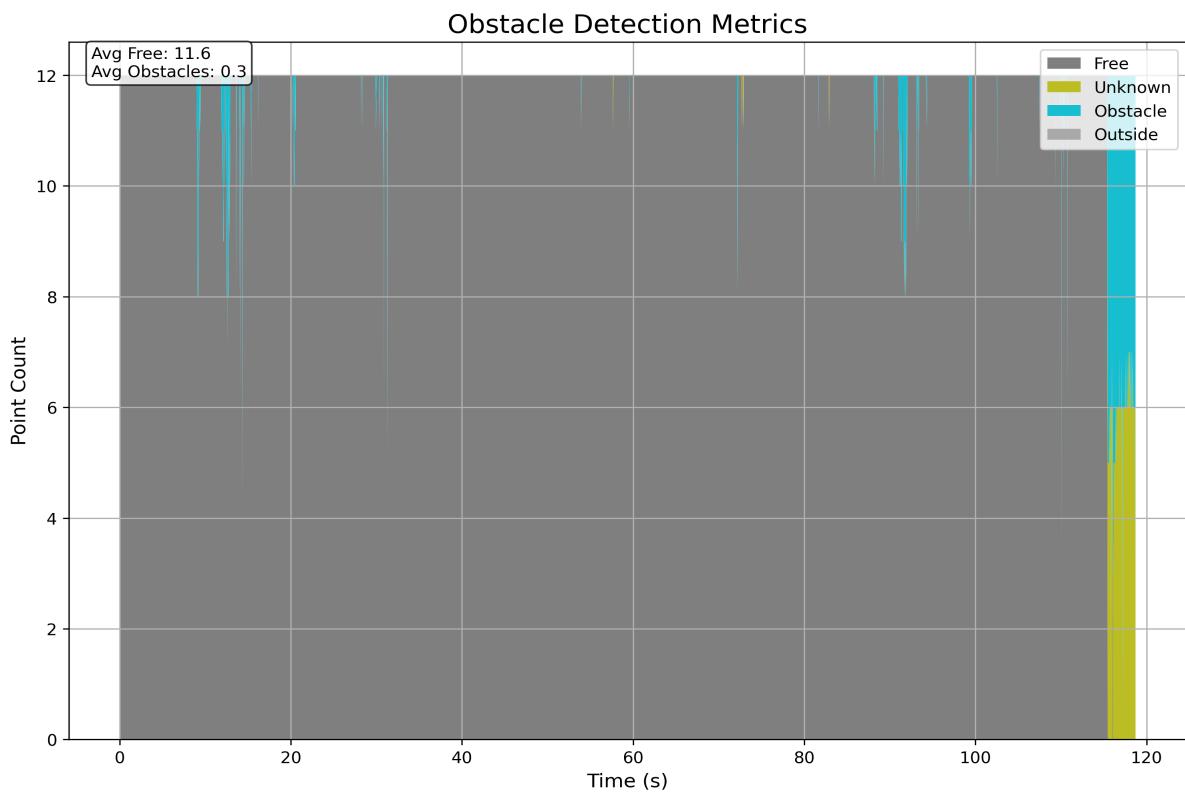
Weight Distribution

MPPI weight distribution showing the diversity of sampled trajectories.



Obstacle Metrics

Obstacle metrics showing the free, unknown, and obstacle points detected.



Computation Time

Computation time performance showing the processing time per control cycle.

