

Dataset

Datasets for AI Race Engineer Simulator

Primary Data Sources

FastF1 Python Library provides comprehensive F1 data including lap timing, car telemetry (speed, throttle, brake, RPM, gear, DRS), tire data, weather conditions, event schedules, and session results. The library supports data from 2018 onwards with full telemetry access and integrates with Pandas DataFrames for easy manipulation.

Ergast API / RaceOptiData offers historical F1 data including race results, driver standings, constructor information, and circuit details. Since Ergast was deprecated after 2024, RaceOptiData provides updated MySQL and CSV dumps following the same schema with data through 2025.

OpenF1 API can supplement real-time and recent race data where FastF1 may have gaps.

Additional Dataset Considerations

Tire Degradation Data can be extracted from FastF1 lap times and compound information, though you may need to engineer features like track temperature, fuel load estimates, and cornering characteristics. Research shows tire energy prediction models trained on Mercedes F1 team data using telemetry to forecast degradation.

Verstappen-Specific Characteristics to model include his preference for aggressive front-end setup, early braking with smooth corner transitions, earlier throttle application, and high adaptability to changing conditions.