# 🏎️ Crashgate: F1 Crash Impact Analysis

\*\*Inspired by Lando Norris’ crash at the Canadian GP\*\*, this data project investigates how in-season crashes have affected Formula 1 drivers' championship standings.

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## 📌 Project Objective

To analyze:

- Which drivers crashed during races

- What was their standing in the championship \*before\* the crash

- How they finished the season

- How many places they dropped in standings

- Who won the title that year

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## 📁 Dataset

Sourced from a [<https://www.kaggle.com/datasets/rohanrao/formula-1-world-championship-1950-2020>],

merged and cleaned using Python and Pandas.

\*\*Final output:\*\* `crashgate.csv` containing:

- `driver\_name`

- `year`

- `round`

- `pre\_crash\_position`

- `standing\_drop`

- `final\_position`

- `champion\_driver`

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## ⚙️ Tools Used

- Python (Pandas)

- Google Colab

- CSV manipulation

- GitHub (for version control)

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## 🧠 Key Skills Practiced

- `merge()` with suffix handling

- Grouping and aggregating data by race & driver

- Time-based analysis using `round` and `year`

- Dataset cleanup and feature selection

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## 📊 Future Work

- Data visualization (e.g., heatmaps of crash vs. drop)

- Look into wet-weather crashes, pit stop undercuts

- Extend analysis to constructor championship effects

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## 🚀 Motivation

This project was born out of my passion for Formula 1 and Data Science. I’ve always been curious — when drivers leading a championship crash mid-season, how badly does it hurt their title run?

Now I can answer that with \*\*real data\*\*.

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📬 Let's connect on Linkedin for any further needs:

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