

# FORMULA *D1Y*

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# the PROBLEM

Enhancing Race Car Performance and Fan Engagement through Personalized Racing Experience

Overview:

- F1 is all about performance - but what about **the fans**?
- Engaging fans and creating personalized experiences are becoming increasingly important aspects for teams (as a stan myself)
- We aim to address this by **leveraging data science** and **personality insights** to **customize race car designs** and **enhance fan engagement**



help me fill out this poll for my f1-themed hackathon!

Do you agree with the statement: Engaging fans and creating personalized experiences are becoming increasingly important aspects for teams and we should have more of them?



# Tech Stack Details – Python, R, HTML/CSS



## Data Analysis

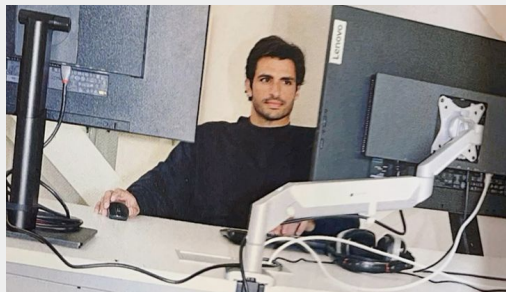
By using R to analyze a dataset of 868 Formula 1 drivers, we wrangle the data to get top 10 race starters, top 10 drivers by pole positions, top 10 drivers with most wins, drivers' nationalities, and trend of number of drivers over the decades.

## Personality Quiz

By using Javascript and HTML, users can take a personality test to figure out their MBTI, and will be shown a list of drivers with the same personality types.

## Customized Race Car

We developed a solution using HTML and Python with different buttons to create a customized race car, including different wheel colors, body colors, and different drivers.



← us ❤️

# FORMULA D1Y

racing dream

is **HERE**



**Let's Go**

Click to Show Image

# BUILD YOUR OWN RACER

## Car Body

- ☐ Dark Blue
- ☐ Dark Green
- ☐ Dark Red
- ☐ Gold
- ☐ Light Blue
- ☐ Light Green
- ☐ Light Red
- ☐ Pink
- ☐ Silver
- ☐ Yellow

## Car Tires

- ☐ Spilled Honey
- ☐ Slava Ukraini
- ☐ Rio De Janeiro
- ☐ Choco Bars
- ☐ Milky Way
- ☐ Lollipop
- ☐ Blue Demon
- ☐ Classics
- ☐ You see Fire
- ☐ Lakers

## Car Vibe

- ☐ Good Ol' Days
- ☐ Golden Age
- ☐ Mysterious Valley
- ☐ Rowing Trees
- ☐ Lighten Sky
- ☐ Bloody Beast
- ☐ Barble
- ☐ Dead Car Walking
- ☐ Silver Line
- ☐ A New Spring

## Pick Your Racer

- ☐ No Racer
- ☐ Charles Leclerc
- ☐ Max Verstappen
- ☐ Mario
- ☐ Baby Yoda
- ☐ Winnie-the-Pooh
- ☐ Joe Biden
- ☐ Donald Trump
- ☐ Soviet Bear
- ☐ Eagle Sam



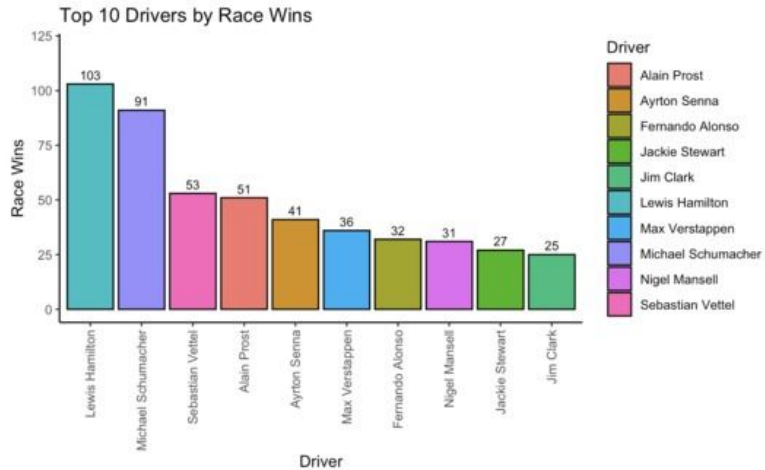
Match Your Racer

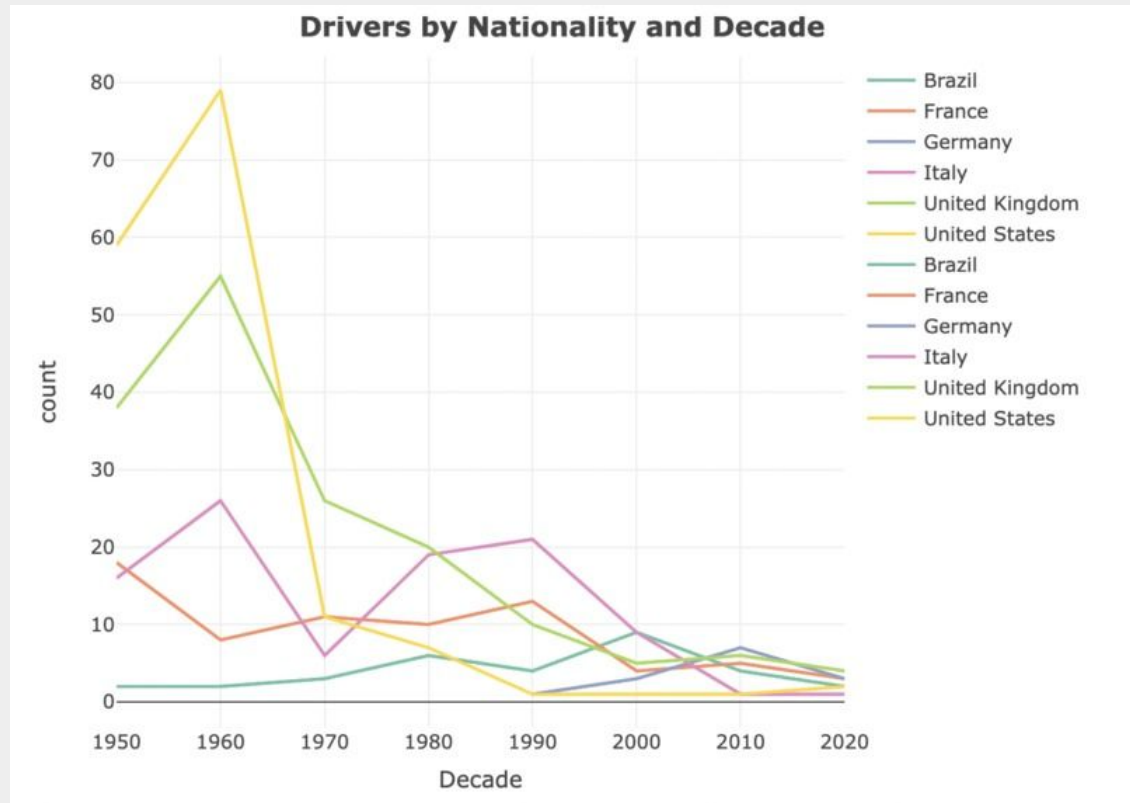
Learn Racer Stats

```

72- ## 4. Top 10 Drivers with Most Wins:
73- ```{r, echo=FALSE}
74- # Group by 'Driver', calculate the sum of 'Race_Wins', and arrange in descending order
75- df_race_starters <- drivers %>%
76-   group_by(Driver) %>%
77-   summarise(Race_Wins = sum(Race_Wins)) %>%
78-   arrange(desc(Race_Wins))
79-
80- df_top_10 <- head(df_race_starters, 10)
81-
82- ggplot(df_top_10, aes(x = reorder(Driver, -Race_Wins), y = Race_Wins, fill = Driver)) +
83-   geom_bar(stat = "identity", color = "black") +
84-   geom_text(aes(label = Race_Wins), vjust = -0.5, size = 3, color = "black") +
85-   labs(title = "Top 10 Drivers by Race Wins", x = "Driver", y = "Race Wins") +
86-   theme_classic() +
87-   theme(axis.text.x = element_text(angle = 90, vjust = 0.5, hjust = 1)) +
88-   coord_cartesian(ylim = c(0, 120))
89- ```

```









# Match Your Racer

## 1. At a party do you:

Interact with many, including strangers

Interact with a few, known to you



## 2. Are you more:

Realistic than speculative

Speculative than realistic

## 3. Are you more impressed by:


Principles

Emotions

## 4. Do you prefer to work:

To deadlines

Just "whenever"





Your Top Matches are:

**ESTJ**

**Nikita Mazepin**

**Nationality:** RAF, **MBTI:** ESTJ

**Seasons:**  
undefined

**Championships:** 0, **Pole Positions:** 0

**Eddie Irvine**

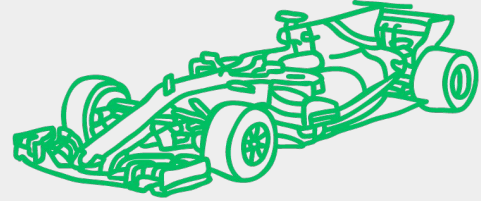
**Nationality:** United Kingdom, **MBTI:** ESTJ

**Seasons:**  
undefined

**Championships:** 1994, **Pole Positions:** 1995

# What We Learned – Data Analysis

- From 1950 to 2023, drivers from US, UK, France, Italy decreased overall, and drivers from Germany and Brazil slightly increased
- Lewis Hamilton has the most Pole Positions and most Race Wins (GOAT :D)
- Out of 868 F1 drivers, the most common nationalities are the United Kingdom, United States, and Italy



# Future Applications

- Creating an application
- Branch out to other levels of motorsport (include different cars to customize, including IndyCar and NASCAR and WEC)
- Create data analyses on lower level Formula 2 drivers and likelihood of making it to Formula 1
- Branch out to using testing other personality types besides Myers-Briggs test, such as the Enneagram test or the Big Five

