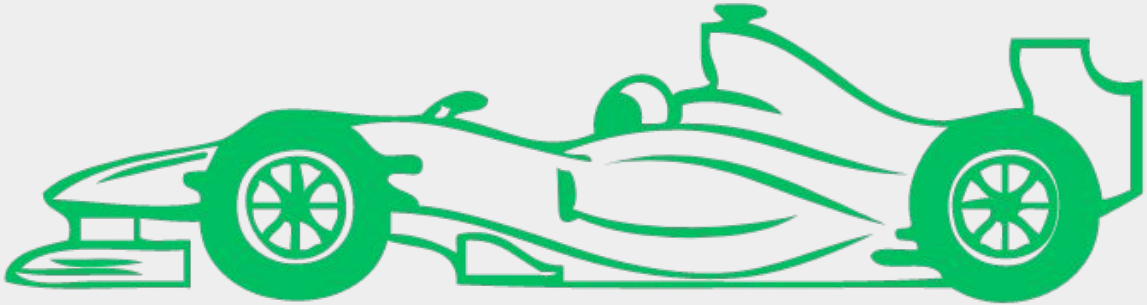


FORMULA *DIY*

Caroline, Forest, Vickie, Cindy

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 c**ustomize 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?

yes	97.3%
no	2.7%

Tech Stack Details – Python, R, HTML/CSS

Data Analysis

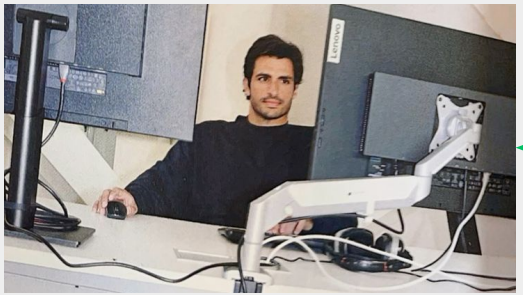
By using R to analyze a dataset of 868 Formula 1 drivers, we wrangle the data to get top 10 race starters, top 10 drivers by pole positions, top 10 drivers with most wins, drivers' nationalities, and trend of number of drivers over the decades.

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 Valey
- Rowing Trees
- Lighten Sky
- Bloody Beast
- Barbie
- 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

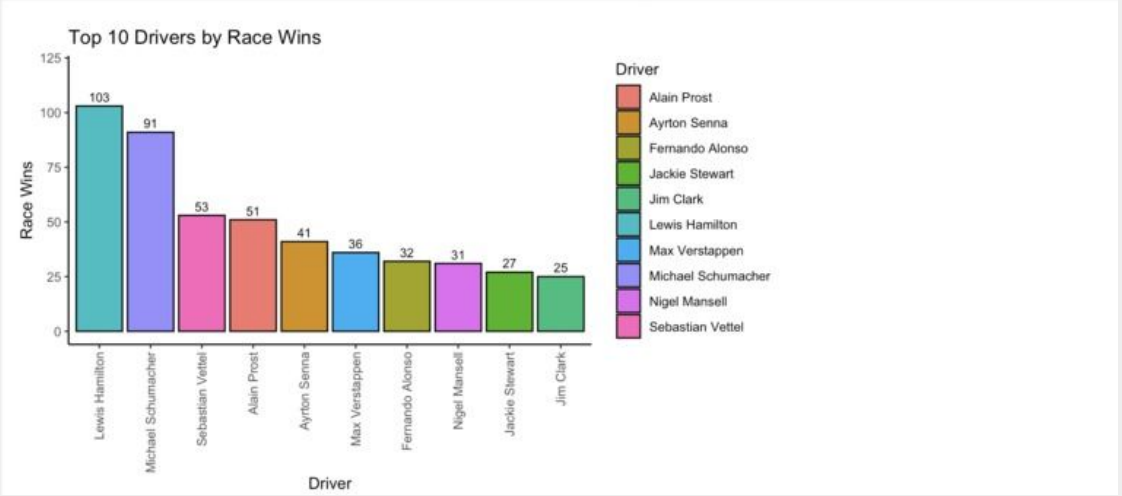
Match Your Racer

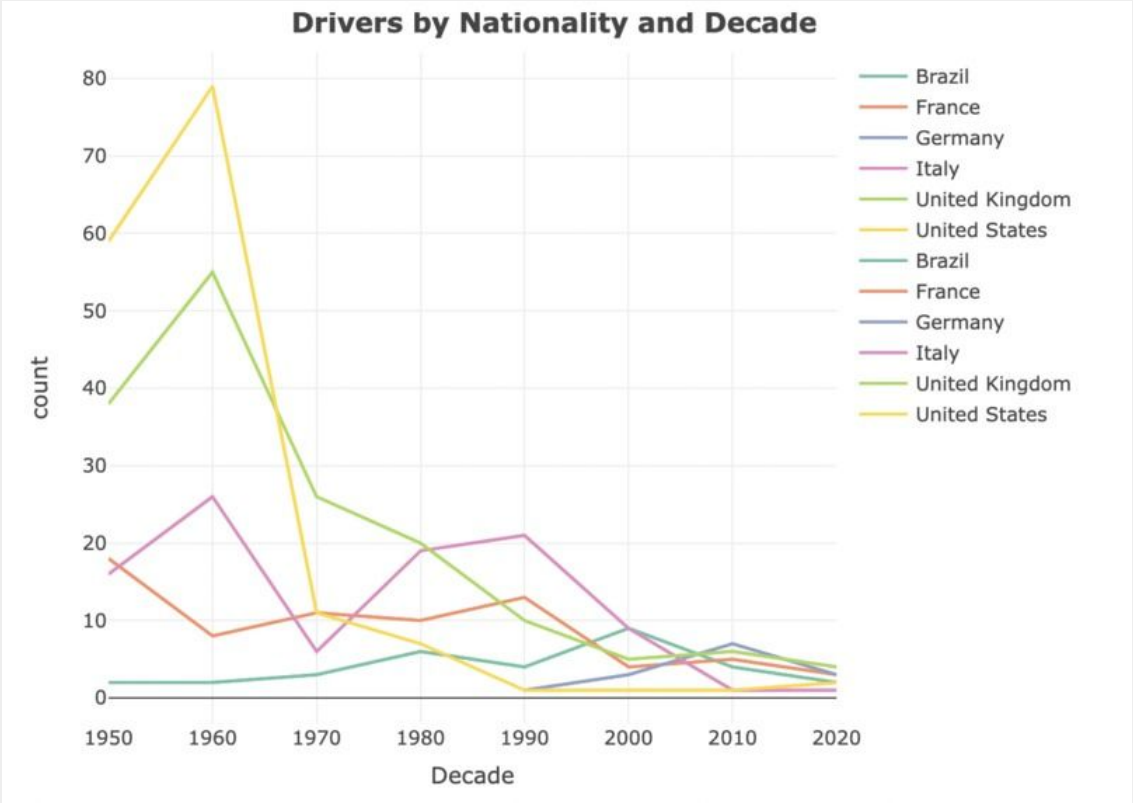
Learn Racer Stats

```
### 4. Top 10 Drivers with Most Wins:
```{r, echo=FALSE}
# Group by 'Driver', calculate the sum of 'Race_Wins', and arrange in descending order
df_race_starters <- drivers %>%
  group_by(Driver) %>%
  summarise(Race_Wins = sum(Race_Wins)) %>%
  arrange(desc(Race_Wins))

df_top_10 <- head(df_race_starters, 10)

ggplot(df_top_10, aes(x = reorder(Driver, -Race_Wins), y = Race_Wins, fill = Driver)) +
  geom_bar(stat = "identity", color = "black") +
  geom_text(aes(label = Race_Wins), vjust = -0.5, size = 3, color = "black") +
  labs(title = "Top 10 Drivers by Race Wins", x = "Driver", y = "Race Wins") +
  theme_classic() +
  theme(axis.text.x = element_text(angle = 90, vjust = 0.5, hjust = 1)) +
  coord_cartesian(ylim = c(0, 120))
```
```




Drivers by Nationality and Decade
count
Decade
0
10
20
30
40
50
60
70
80
1950
1960
1970
1980
1990
2000
2010
2020
Brazil
France
Germany
Italy
United Kingdom
United States
Brazil
France
Germany
Italy
United Kingdom
United States

Match Your Racer

What is your Nationality (Please do not abbreviate):

United States

Choose a year or season:

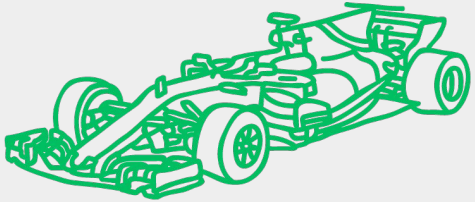
2013

Submit

Your Top Matches are:

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