



# BIKED

Can different bicycle types be identified through their features?

# Different Features or Marketing?



Are these bicycle types really different from each other  
based on their features?



Road



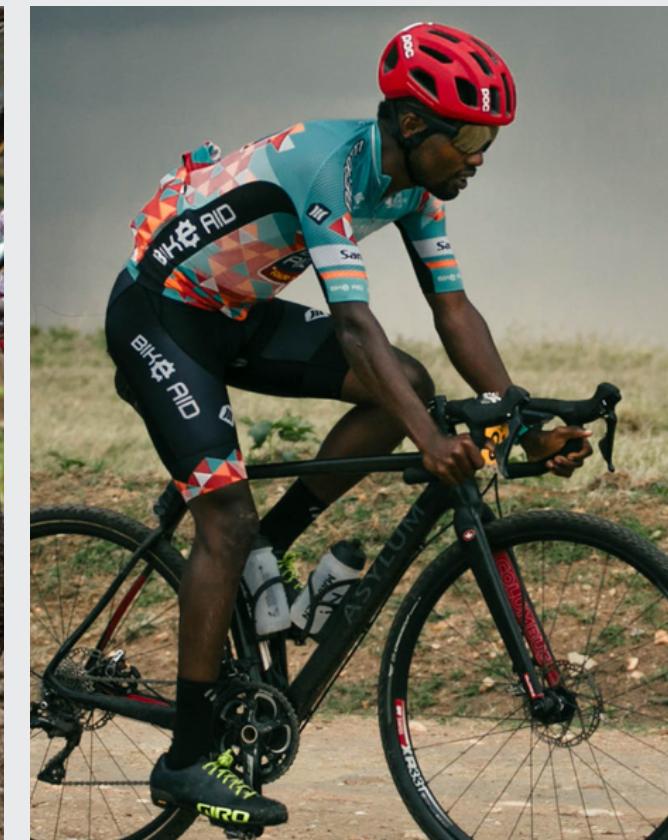
Mountain



Track

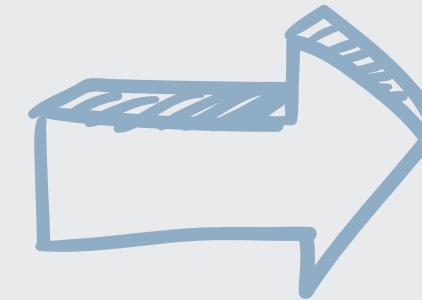
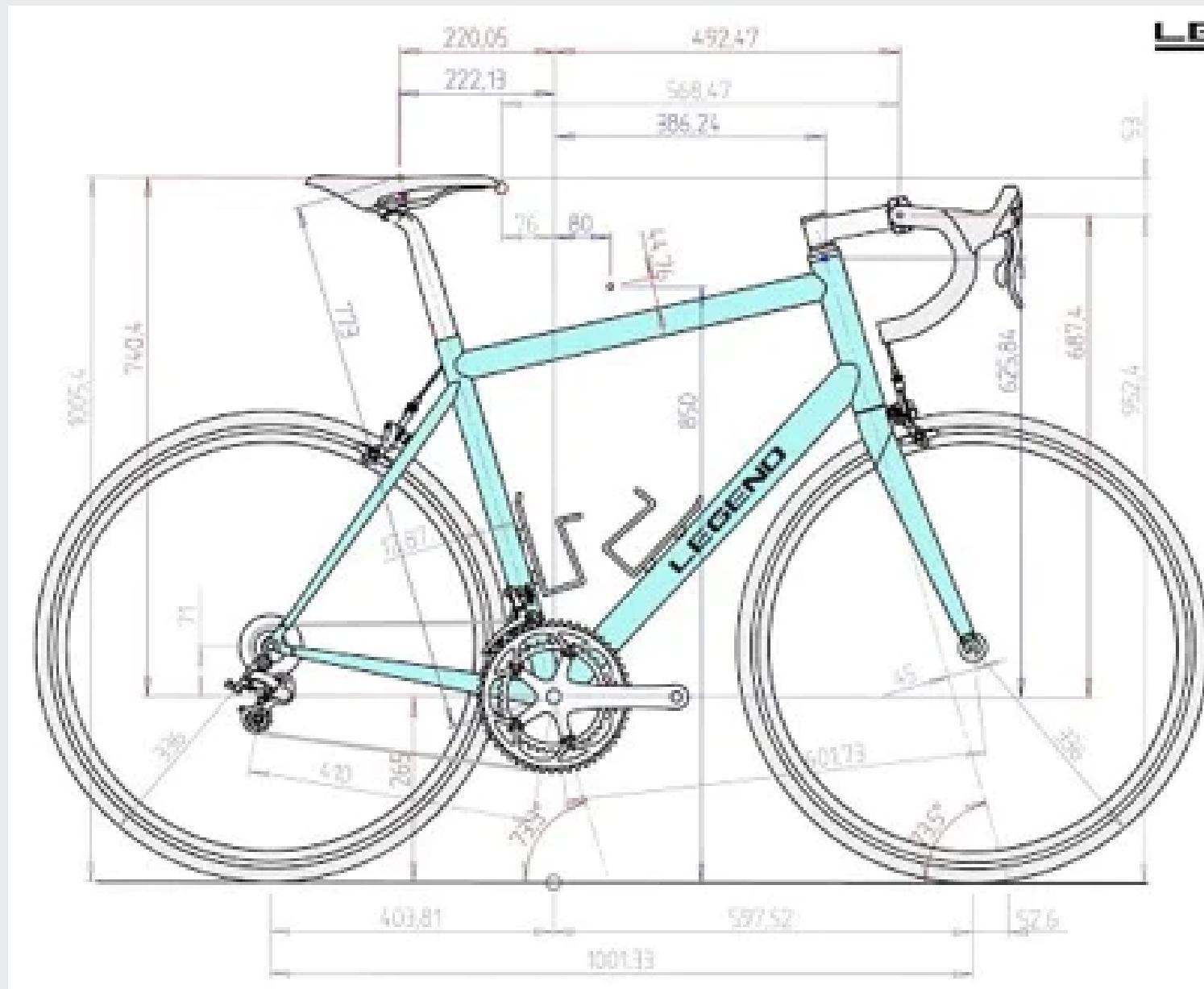


Cyclocross



Gravel

# The Challenge



Mountain Bike

Track Bike

Road Bike

...

Based on 2,400 features of a bike

... identify its type

# 18 Different Types



- Road
- Track
- Timetrial

ROAD BIKES

- Mountainbike
- Trials
- Dirt-Jump
- BMX
- Gravel
- Cyclocross
- Polo

OFF-ROAD  
BIKES

- Touring
- Commuter
- City
- Cruiser
- Hybrid
- Cargo
- Childrens
- Other

EVERYDAY-  
BIKES

# 2 Different Types



- Road
- Track
- Timetrial

ROAD BIKES

- Mountainbike
- Trials
- Dirt-Jump
- BMX
- Gravel
- Cyclocross
- Polo

OFF-ROAD  
BIKES

- Touring
- Commuter
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- Other

EVERYDAY-  
BIKES

# Road Bike vs. Track Bike

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**Road Bike**  
brakes  
different gears

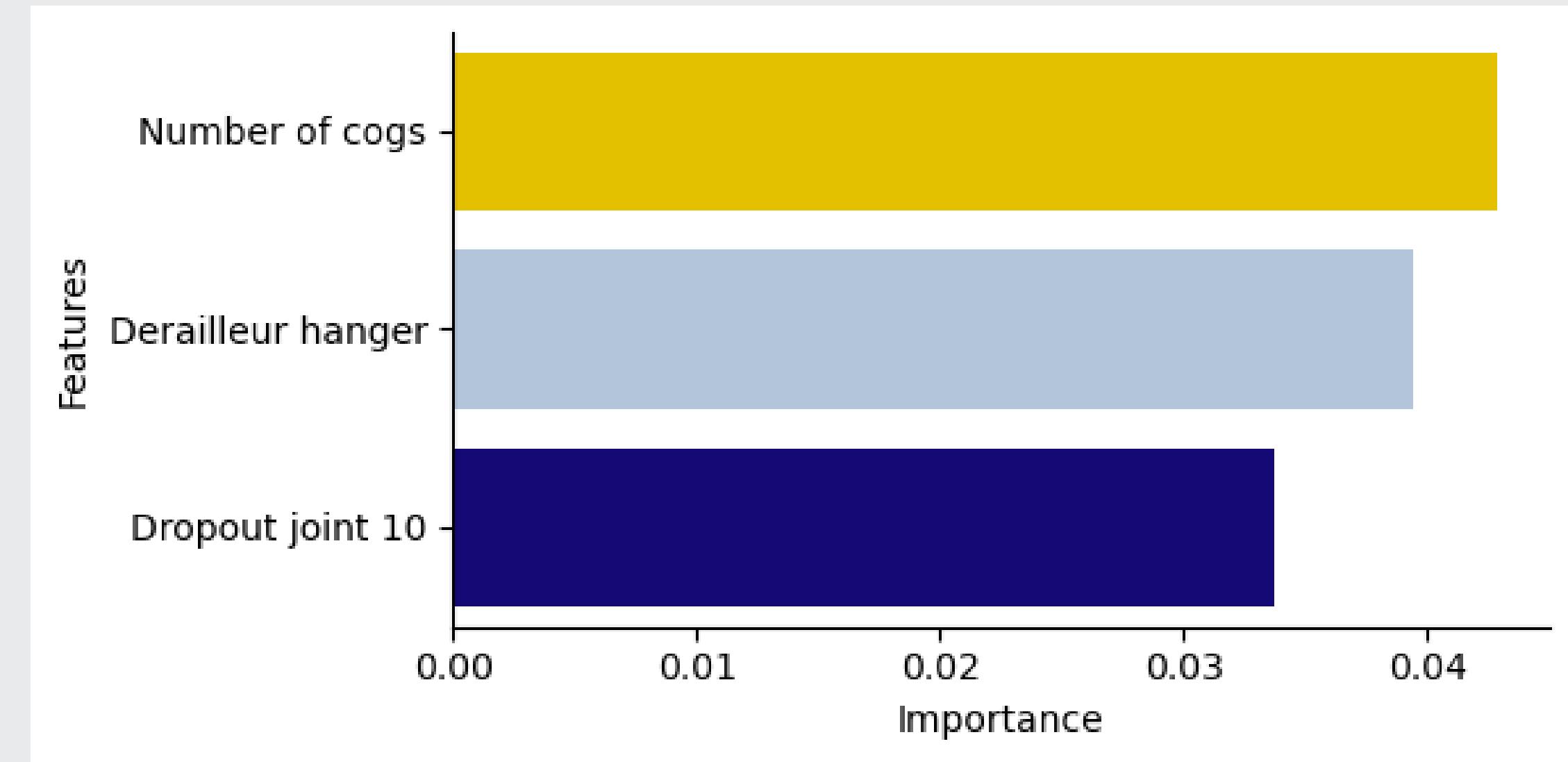


**Track Bike**  
no brakes  
fixed gear / no gears

# Road Bike vs. Track Bike



- 95% Accuracy in identifying the correct bike - Why not 100%?
- Features used by the model:



# Road Bike vs. Track Bike

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- Used Features have to do with gears
- Surprising that the brakes have not been used

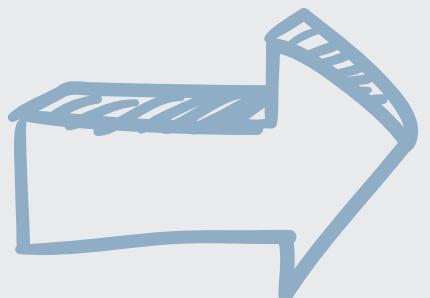


# Generalization for all types

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With 18 categories my model identifies 72% of bicycles.

- Might be due to marketing
- Might be due to inconsistent labeling and measurements



Further work is needed to fully answer the question





Thank you  
and ride on :)

Thank you