



PRO CYCLING STATS

The 'single most *useful* cycling database'

Why use PCS?

- 140M pageviews/month, 50k users/day
- cycling writers, TV commentators, pro teams, riders, fans
- Team Sky: 'marginal gains'

Sports Analytics
Innovation Summit, San Francisco, Nov.
- comparing physiological performance and sensor data

PCS Search: Login/Sign-up > English

Home Races Rankings Teams Statistics Game

ALL PRO WOMEN

Today

Herald Sun Tour (2.1) Stage 2 Warrnambool > Ballarat 7 hours ago

Rank	Rider	Team	Time
1	PEDERSEN Mads	Trek - Segafredo	5:23:12
2	VON HOFF Steele	Bennelong SwissWellness Cyclin...	"
3	EDMONDSON Alexander	Mitchelton-Scott	"

General

Rank	Rider	Time
1	HANSEN Lasse Norman	9:01:54
2	VON HOFF Steele	0:04
3	MEYER Cameron	0:09

Leaders

Rider	Team
ROSS Mathew	
EARLE Nathan	
VON HOFF Steele	
MITCHELTON-SCOTT	

Yesterday

Volta a la Comunitat Valenciana (2.1) Stage 2 Bétera > Albuixech 20 hours ago

Rank	Rider	Team	Time
1	VALVERDE Alejandro	Movistar Team	3:53:55
2	SANCHEZ Luis Leon	Astana Pro Team	"
3	FUGLSANG Jakob	Astana Pro Team	"

General

Rank	Rider	Time
1	VALVERDE Alejandro	8:27:58
2	SANCHEZ Luis Leon	0:04
3	FUGLSANG Jakob	0:06

Leaders

Rider	Team
BRAVO Garikoitz	
KUDUS Merhawi	
ASTANA PRO TEAM	

21 hours ago

Etoile de Bessèges (2.1) Stage 2 Nîmes > Générac

Rank	Rider	Team	Time
1	LAPORTE Christophe	Cofidis, Solutions Crédits	3:22:05
2	COQUARD Bryan	Vital Concept Cycling Club	"
3	DUPONT Timothy	Wanty - Groupe Gobert	"

General

Rank	Rider	Time
1	LAPORTE Christophe	7:08:05
2	COQUARD Bryan	"
3	SARREAU Marc	"

Leaders

Rider	Team
LAPORTE Christophe	
MENTEN Milan	
MENTEN Milan	
VITAL CONCEPT CYCLING CLUB	

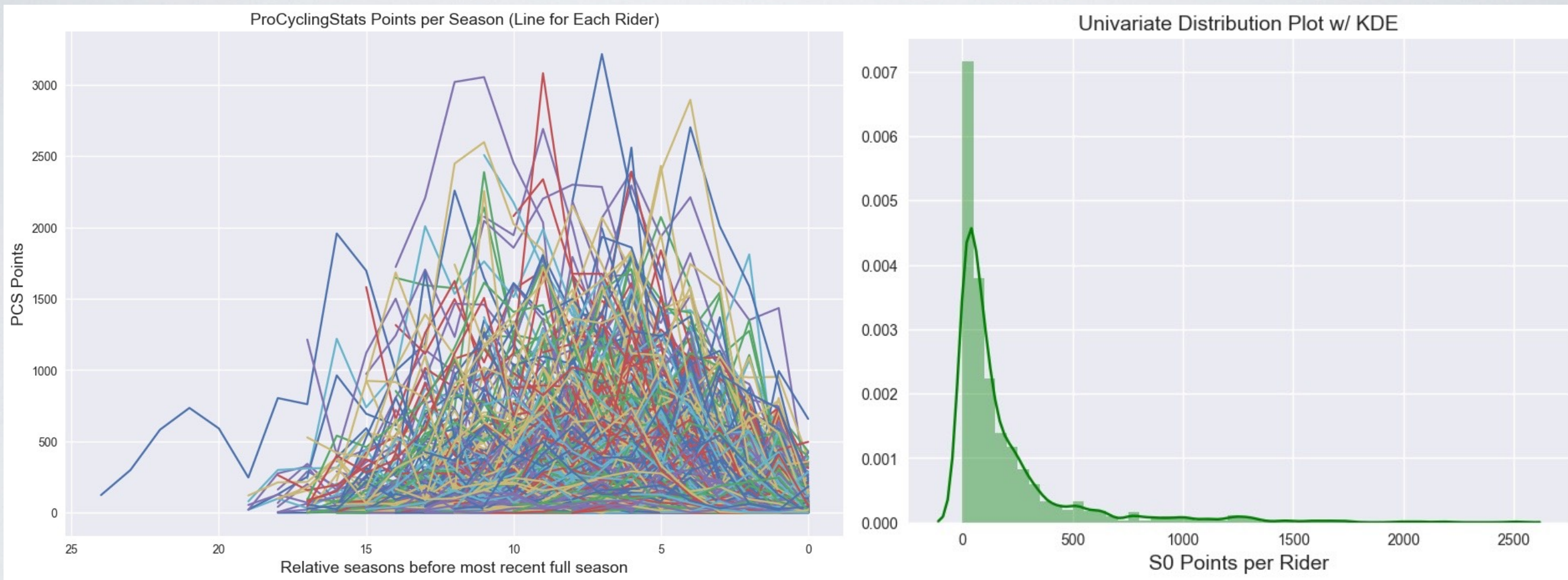
Races today

Finish	Race	Cat	Status	Class
4h	National Championships Colombia - ITT	ME	-	NC
-	National Championships Namibia MJ ...	MJ	-	NC
2h	Etoile de Bessèges - Stage 3	ME	-	2.1
-	National Championships Namibia - ITT	ME	-	NC
-	National Championships Namibia WJ ...	WJ	-	NC
-	Herald Sun Tour - Stage 2	ME	finished	2.1
1h	Volta a la Comunitat Valenciana - Sta...	ME	-	2.1
-	National Championships Namibia WE ...	WE	-	NC
-	National Championships Namibia U23...	U23	-	NC
-	National Championships Namibia WU...	-	-	NC

Upcoming races

Date	Race	Cat.	Startlist	Class
04/02	National Championships Namibia - Road Race	ME		NC
04/02	National Championships Colombia - Road Race	ME		NC
04/02	National Championships Namibia WE - Road Race	WE		NC
04/02	National Championships Namibia U23 - Road Race	U23		NC
04/02	National Championships Namibia MJ- Road Race			NC
04/02	National Championships Namibia WJ - Road Race	-		NC
04/02	National Championships Namibia WU23 - Road Race	-		NC
06/02	Dubai Tour	ME	startlist	2.HC
06/02	Colombia Oro y Paz	ME	startlist	2.1

The Challenge: PCS Points



14 races, 15 years → 17,800 pages → 1,730 riders / 10 seasons each

Methodology & Results

Linear Regression

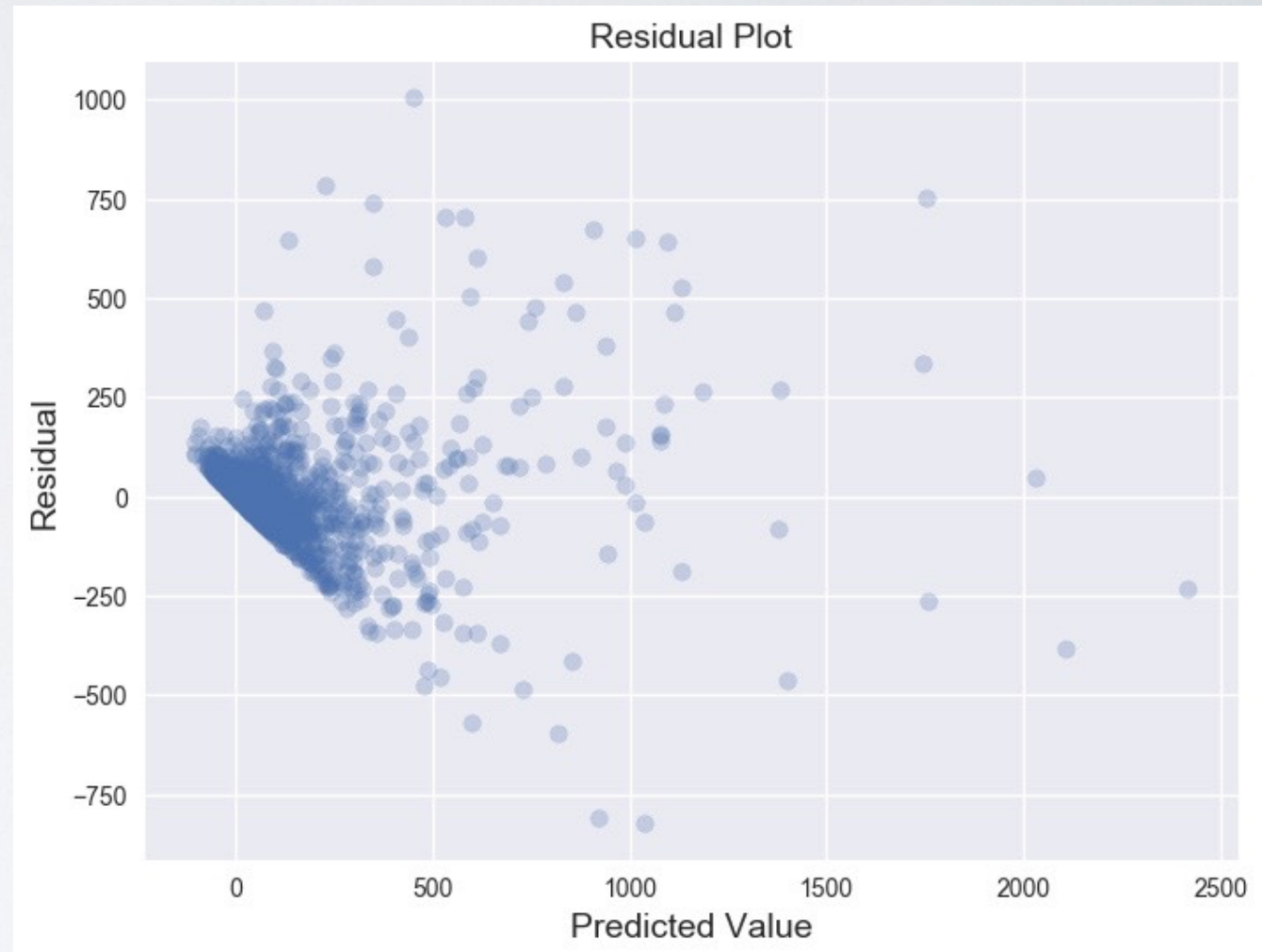
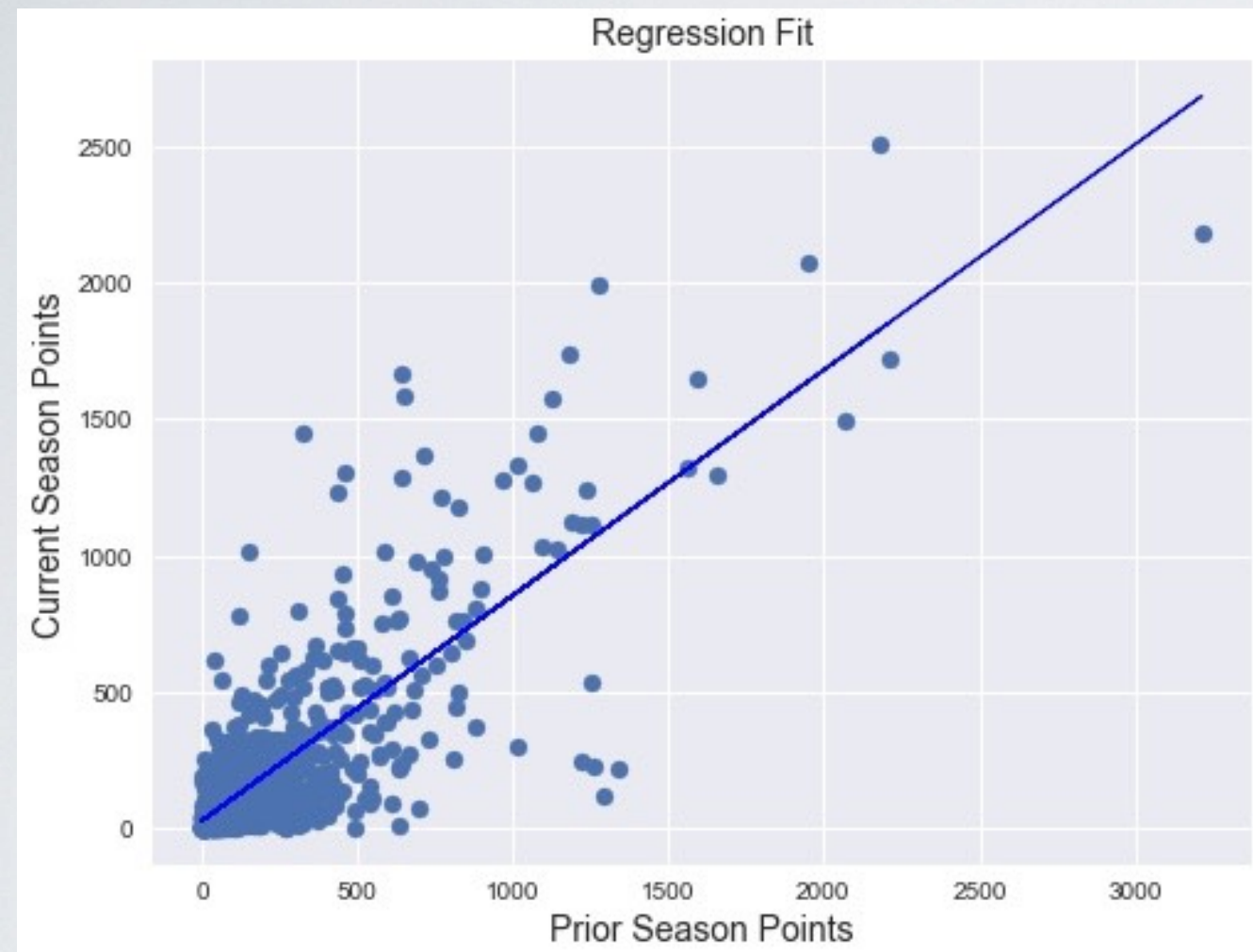
- OLS with 1, 7, and 74 features
 - points per season, career points by category, career length, age by season, nationality
- Lasso selected 21 features
 - Training R-squared (adj):
 $0.64 \rightarrow 0.70 \rightarrow 0.75$
 - Test R-squared: 0.68

But is it *useful*?

- Test RMSE: 137 points



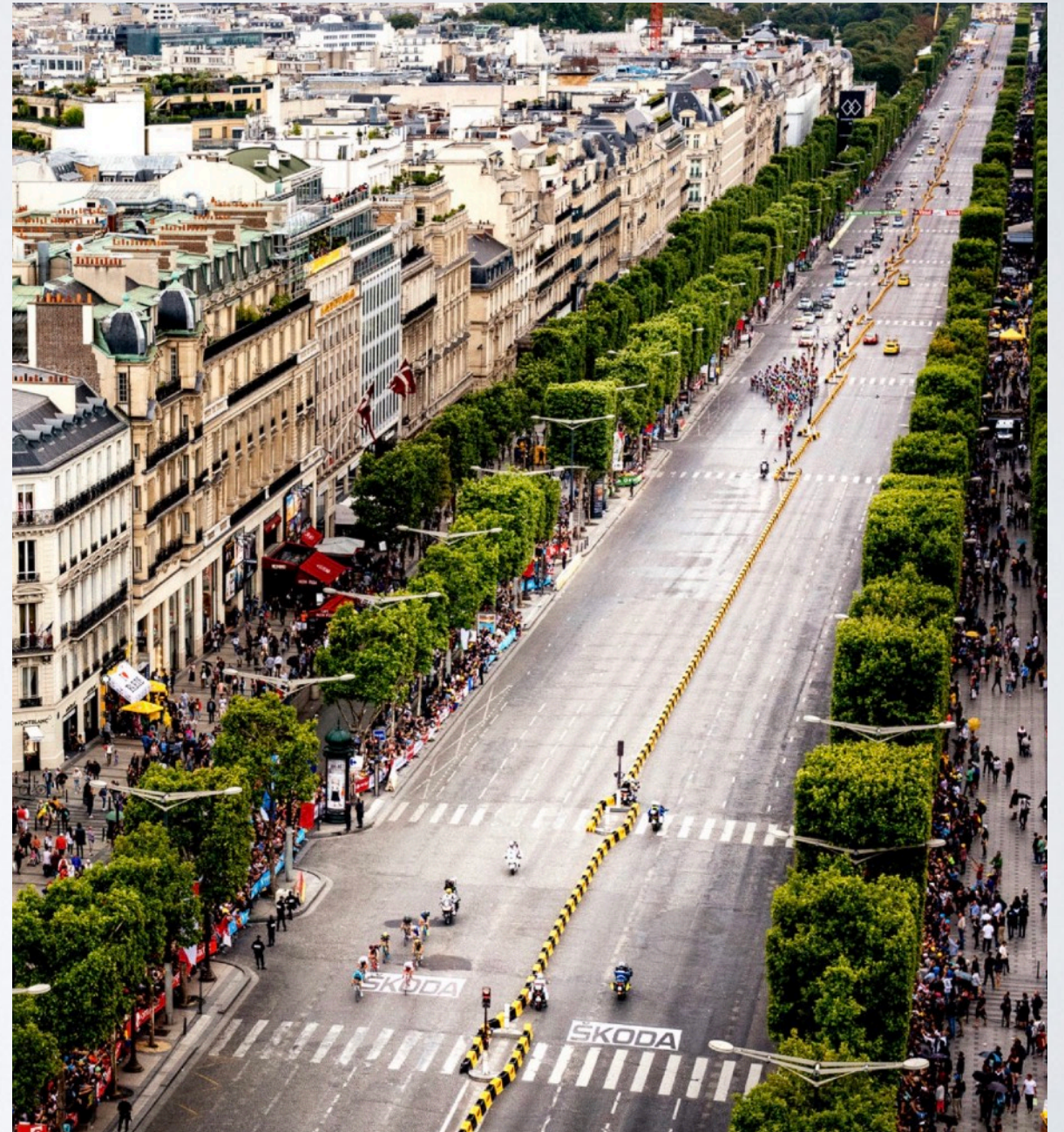
What could be missing?



A lot.

Opportunities Ahead

- Classification vs. Regression: domestique, sprinter, General Classification, climber, and time trial
- Watts/kilogram
- Dopeology: people, teams, incidents and products
- Team performance and teammate interaction
- UCI vs. PCS points





Time to get moving!

Credits

Number Crunchers: Pro Cycling Stats, Rouleur, <https://rouleur.cc/editorial/number-crunchers-pro-cycling-stats/>

The Most Powerful Man In Cycling Data?, Innovation Enterprise, <https://channels.theinnovationenterprise.com/articles/how-data-has-changed-cycling-performance-sports>

Best of the 2017 Tour de France, Strava, <https://blog.strava.com/galleries/tour-de-france-2017/>

Photos by Jered & Ashley Gruber, <https://www.gruberimages.pro/>