

USE CASE

Decision Inc. Australia and Qlik Predict Outcomes of World Cycling Competitions with Machine Learning

What if there was a way to see the power of Machine Learning through something as universally understood as sport? Along with Qlik, we wanted to prove how accurate Machine Learning could be, and a quick way for us to prove it to everyone was through sports – with two cycling competitions offering the perfect litmus test for our capabilities.

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Many of the people at Decision Inc. Australia and Qlik are avid cyclists. So, we thought 'why not test the power of Machine Learning on the Tour de France?'

Aiden Heke
Chief Executive Officer
Decision Inc. Australia

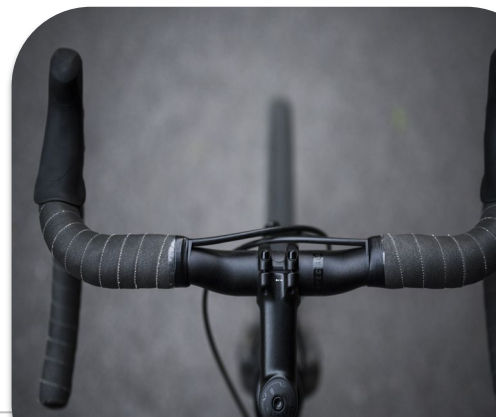


THE CHALLENGE

The two companies wanted to accurately predict the outcomes of the Tour de France, particularly the place-winners and more importantly, the top 20.

Decision Inc. Australia's team started collating all publicly-available data for the Tour de France on all the cyclists – speed, their training, their most recent results, their age, speed up and down hills, and more, and ingested it into the "Machine" -- Qlik's AutoML -- along with the route and other data such as expected weather. Decision Inc. Australia unveiled the project at an International Cycling Executives event, where it also revealed its predictions.

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Thankfully, the Machine did its part and accurately predicted eight of the top 20, an enormous feat considering that there are more than 175 cyclist who competed in the tour in 2022, and also considering that no machine can accurately predict things such as injuries.



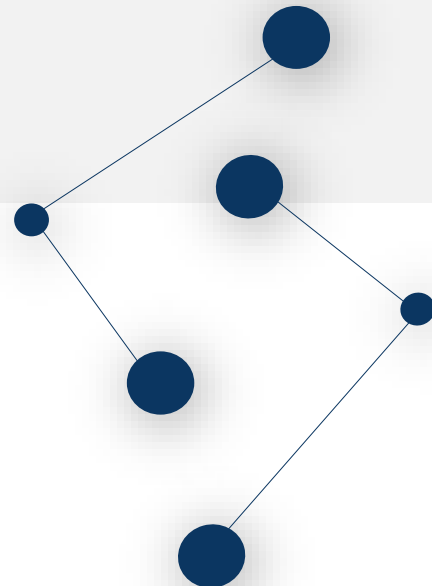
"We were buoyed by the results and wanted to fine tune the machine to see whether we could improve on those results, but we didn't want to wait another 12 months – so we decided to do it all again with the UCI Road World Championships later that year," said Heke.

The company widened its data scope and worked closely with Pro Cycling Stats and AusCycling to get as much available data on every competitor in both the Women's and Men's Elite races as possible.



Again, we collected the data we deemed best and most reliable, and also leant heavily on Australian cycling legend Katey Bates to ensure the right data was selected, and entered it into the Qlik AutoML. While we struggled to get as much data for the Women event as we'd like, we pressed on and interweaved what we could find with ours and Katey's knowledge of the competitors.

Aiden Heke
Chief Executive Officer
Decision Inc. Australia



THE OUTCOME

The Machine exceeded expectations. Despite hitting a hurdle in which a lack of available data on the women's side of the competition, the Machine managed to pick six of the top 10 placewinners in the Women's Elite race. It may have fared even better had one of the riders the machine selected not withdrawn due to COVID

| PREDICTED PLACEWINNER | OUTCOME | PLACE |
|--------------------------------|-------------|------------------|
| VAN VLEUTEN , Annemiek | Placed | 1 st |
| KOPECKY , Lotte | Placed | 2 nd |
| LUDWIG , Cecilie Uttrup | Placed | 5 th |
| LABOUS , Juliette | Placed | 7 th |
| NIEWIADOMA , Katarzyna | Placed | 8 th |
| LONGO BORGHINI , Elisa | Placed | 10 th |
| VOS , Marianne | | 14 th |
| SPRATT , Amanda | | 27 th |
| BALSAMO , Elisa | | 49 th |
| VOLLERING , Demi | COVID - DNS | DNF |



It can be argued the Machine fared even better the following day during the Men's Elite: of the nine predicted top 10 riders who finished the race, the Machine picked the top four placewinners.



| PREDICTED PLACEWINNER | OUTCOME | PLACE |
|-------------------------------|-----------|------------------|
| EVENEPOEL , Remico | Placed | 1 st |
| LAPORTE , Christophe | Placed | 2 nd |
| MATTHEWS , Michael | Placed | 3 rd |
| VAN AERT , Wout | Placed | 4 th |
| POGACAR , Tadej | | 19 th |
| KUNG , Stefan | | 20 th |
| STUYVEN , Jasper | | 47 th |
| ALAPHILLIPE , Julian | | 51 st |
| ALMEIDA , João | | 60 th |
| VAN DER POEL , Mathieu | Abandoned | DNF |



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The project confirmed what we already knew: that to get the best from the Machine, the human element is still critical. While the machine itself can analyse available data quickly and accurately, it needs a human touch, an expert, to know what data is most relevant to deliver the best outcomes. What holds true of cycling holds true of business: together, data analytics and human expertise can achieve great outcomes, and in many cases even predict the future.

Aiden Heke

*Chief Executive Officer
Decision Inc. Australia*

■ ABOUT DECISION INC. —



Decision Inc. is a leading independent data and analytics consultancy which delivers value from data faster.

As seen in [The Australian Financial Review](#) and [The Weekend Australian](#), we serve the community and industry and believe great data and analytics expertise will underpin economic recovery and prosperity. We provide insights and accelerated business improvement capabilities to help our clients in their pursuit of progress.