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SAL 2018 - SPORT ANALYTICS LAB

TURIN 8th November - 13th December

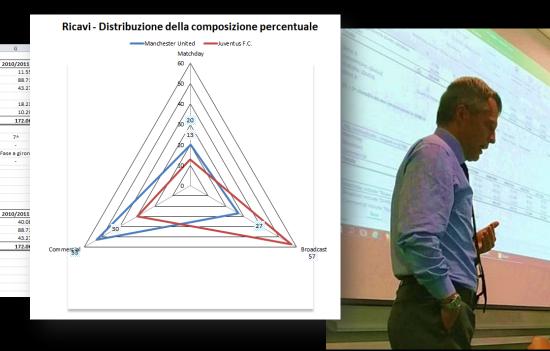
Università degli Studi di Torino Campus Luigi Einaudi by Norman Foster

During the months of November and December 2018 the first edition of the Sport Analytics Lab took place at the Luigi Einaudi Campus. The workshop saw the joint presence of the Department of Economics and Statistics «Cognetti de Martiis» and the Department of Management.

First day (Luca Malfatti)

- analysis of a historical series of revenues of Juventus F.C.
- composition in the "matchday", "broadcast" and "commercial" categories analyzed measuring the "sensitivity"
- "rebranding" strategy

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Second day (Gianluca Rosso, Elena Cristofori)

- analysis of sailing with contribution of TriM, friend of quant4sport
- topics: latitude and longitude, real wind, apparent wind, boat movement and speed
- analysis of a real database of 90 thousand measurements (five meas. per second)
- standardization operations of data, synchronized graphic analysis and outliers searching



Ing. Elena Cristofori (successful analyst at Rio 2016: Argentina gold medal and Austria bronze medal) with Luca Malfatti and Gianluca Rosso.

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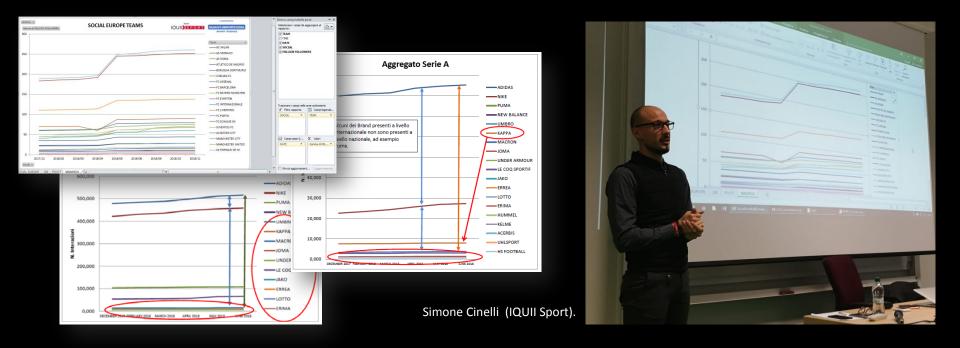
Third day (Gianluca Rosso)

- introduction of Formula E with contribution of Venturi Team, friend of quant4sport
- analysis of the real FIA database of the last three seasons (teams, drivers, races, lap times and pit stops, weather conditions data)
- approach to telemetry (pivot tables and charts, regression, performance peaks)



Fourth day (Luca Malfatti, Gianluca Rosso, Simone Cinelli)

- analysis of social networks for football related with fan engagement, with contribution of IQUII Sport friend of quant4sport
- relation with the performance during the season.
- analysis of commercial brands from an economic point of view (focus on Kappa)



Fifth day (Luca Malfatti, Gian Piero Cervellera)

- analysis on youth football with Football Intelligence, friend of quant4sport
- presentation by Prof. Cervellera of his experience as a Machine Learning researcher, winner of the Guardiola Hackatlon Contest as the best mathematical model in football (performed live in the classroom)



Sixth day, final of the Lab

- presentations of the student's analysis works (forewords by Prof. Riccardo D'Elicio)
- topics: analysis of the tennis service, the left-handed tennis players, the fans, the search for the best defense, the Guardiola system, arbitration and VAR at the World Cup, football business sustainability, analysis of timing and pit stops in Formula E, Nike vs Adidas brands, Manchester City vs Manchester United, Venturi in Formula E, the New York Marathon.



Acknowledgments











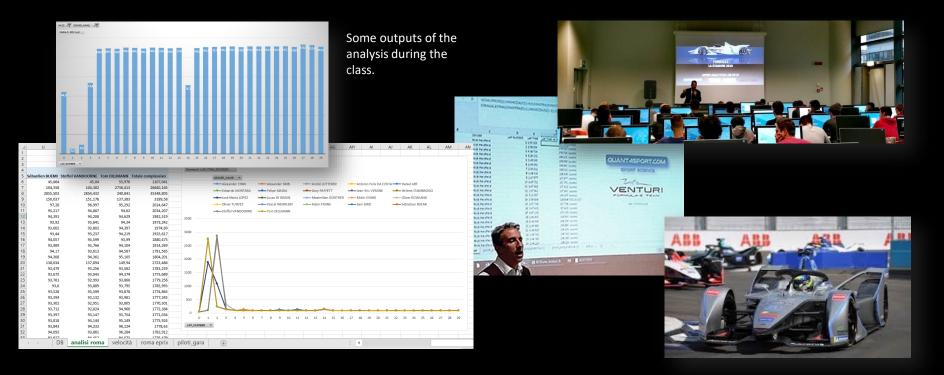






THE SPORT ANALYTICS LAB 2019

Turino October – December Università degli Studi di Torino – Campus Luigi Einaudi Between the months of October and December 2019, the second edition of the Sport Analytics Lab was held at the Luigi Einaudi Campus. The laboratory was part of the training offer of the Department of Economics and Statistics "Cognetti de Martiis". On the **first day**, Gianluca Rosso introduced **Formula E**, the championship of electric and sustainable cars which is enjoying great success and which features top-class brands such as Audi, BMW, Citroen, Jaguar, Mercedes, Porsche, Renault. The partnership of quant4sport with the Monegasque Venturi allowed the students to analyze the real FIA database of the last three seasons: data related to teams, drivers, races, lap times and pit stops, as well as weather data. After the official Venturi video, the students approached the telemetry measurement system, performed pivot tables, pivot charts, regression analysis and research and identification of positive and negative performance peaks.



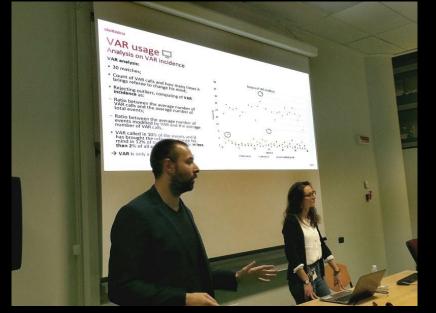
The **second day** was dedicated to biomechanics and Paralympic sports. We had the pleasure of having Farhan Hadafo, Paralympic athlete in Rio2016 (bronze medal) and Tokyo2020, his coach Manuele Lambiase and Mauro Testa of Biomoove with us in the classroom. The students learned the meaning of biomechanics, saw some practical applications and were able to practice using some datasets. Above all, it was possible to share Farhan's **sport and life** experience.



Mauro Testa's work at Biomoove (source published on LinkedIn).



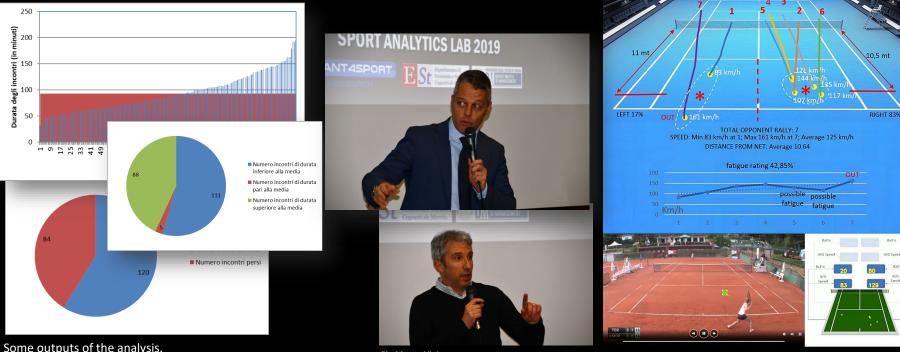
On the **third day** Daniele Berrone and Morgana Lalli of **Deltatre** illustrated the results of a mathematical and statistical model for assessing the performance of referees in international football competitions. The students had the opportunity to learn the stages of the process of elaborating a mathematical and statistical model, to analyze the difficulties associated with it and to learn the results of the model itself.



Daniele Berrone and Morgana Lalli, Deltatre.



The **fourth day** was dedicated to tennis with specific reference to a project aimed at allowing a young player to acquire the score necessary to access the ATP ranking. The students were able to analyze the database relating to the qualifying quantities over 110 tennis matches, performing tables and graphs and practicing the calculation of some statistical quantities (average, median, fashion) in order to elaborate the conclusions deriving from their analysis. The optical tracking project that quant4sport is developing with the collaboration of Prof. Cervellera from the University of Siena was then presented.



The tracking and optical analysis project.

Ph. Marco Allais

During the fifth day Piero Gros was our guest in the class. We commented with him the results of the statistical analysis applied to a skiing competition. With Piero Gros we reasoned about the changes that have taken place in skiing in the last 40 years in terms of materials, downhill technique, athletic preparation, quality of the slopes and application of data analysis tools. Marta Bassino answered the same questions through a video. It was therefore possible for students to compare two different generations of successful athletes in the world of skiing on the same topics.



Ph. Marco Allais

The sixth day was the final day of the Lab. Students had the opportunity to present their analysis work and expose the knowledge acquired. The presentation of the papers, all of considerable interest and high level, was preceded by the intervention of Marco Chessa, member of the City Council of the Municipality of Turin and President of the 1st Permanent Council Commission for Budget and Planning.

The final day was also attended by Lorenzo Malanga Co-Founder & Head of Data Science of Mercurius Betting Intelligence.



Marco Chessa, member of the City Council of the Municipality of Turin and Lorenzo Malanga Co-Founder & Head of Data Science of Mercurius Betting Intelligence.

Ph. Marco Allais

Acknowledgment















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