

# The Dynamics of Basketball Performance

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April 23, 2024

## Project Work Description

Throughout the project, Matteo and I closely collaborated on all aspects of the process.

Specifically, we jointly approached all the main tasks, namely linear regression, PCA, and Fuzzy Clustering, as well as we engaged in intensive cooperation during the data exploratory analysis and report writing stages.

At first, we intended to both develop the code entirely, with me working in Python and Matteo using R; although, in order to meet our deadline and provide all the necessary code, there was a slight exception: I focused on implementing the Fuzzy Clustering algorithm in Python, while Matteo handled the Exploratory Analysis in R. However, to ensure that both of us would fully comprehend and be actively involved in all aspects of the project, I wrote the report section on Data Exploratory Analysis, and Matteo wrote the section on Fuzzy Clustering.

This way, our collaboration let both of us to fully participate to every result.

## Lessons Learned

This project provided me with priceless learning experiences. Despite initial hesitations about approaching on such a comprehensive data science project, I found immense satisfaction in exploring the dataset and uncovering significant insights, particularly due to my innate passion for sports analytics. In particular, I found the interpretation of the PCA results and their correlation with the "Upsets" phenomenon (see project report) to be incredibly fascinating.

This project emphasized, to me, the importance of domain knowledge in data analysis, as understanding the context of the dataset is crucial for accurate interpretation of results. For this reason, I am thankful for the opportunity to collaborate with Matteo, whose expertise in basketball significantly contributed to our project's success.

Lastly, thanks to this project, I gained deeper appreciation of the powerful data analysis tools available today. Through my dedication and efforts, I believe I have taken my first steps into the field of Data Science, and I believe I am now ready to take part in future endeavors.

## Closing

In conclusion, this project was a rewarding experience, that allowed me to apply my data analysis studies and develop field-related skills and soft-skills related to collaborating with a teammate, even though our mutual professionalism let us get along with each other really well.

Overall, I look forward to applying the lessons learned from this project to future endeavors.