

## Miguel Vidal

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### Summary

Experienced data scientist and sports scientist specializing in integrating advanced analytics with tactical and technical decision-making in elite soccer. Skilled in developing data pipelines, building dashboards, and creating innovative tools for performance evaluation. Co-author of peer-reviewed publications on international soccer camp transitions and predictive modeling in women's soccer.

### Education

Concordia University Chicago, River Forest, IL

Master of Science, Applied Exercise Science (Sport Performance and Training) - December 2018

Huntingdon College, Montgomery, AL

Bachelor of Arts, Exercise Science - May 2016

### Publications

(Co-Author) Oliva-Lozano, J., et al. Tips for Transitioning to and From International Soccer Camps. \*Accepted for publication.\*

(Co-Author) Oliva-Lozano, J., et al. Predicting the Match Outcome in the 2023 FIFA Women's World Cup and Analysis of Influential Features. \*Accepted for publication.\*

### Experience

#### Senior Data Scientist, US Soccer Federation

October 2024 – Current

- Serve as a technical liaison to coaching staff, delivering actionable insights from physical, tactical, and wellness data.
- Oversee physical data pipelines and standardized match reports integrating tactical and physical metrics.
- Create advanced visualizations for decision-making and design dashboards to streamline workflows.
- Utilize CI/CD practices to improve the testing and integration of new data sources, enabling seamless integration into existing systems.
- Collaborate with engineering teams to maintain version control and monitor system performance, ensuring the reliability of analytics tools.
- Support for building a formal Technology Review Process.

#### WNT Sport Scientist, US Soccer Federation

June 2022 – October 2024

- Revamped sport science processes to enhance training planning and roster selection.
- Developed Shiny apps to analyze and visualize physical and wellness data, implementing algorithms like acute:chronic workload and cluster analysis.
- Designed a "Morning Screen" process to capture and analyze athletes' responses efficiently.
- Contributed to the team's success in winning the **2024 Olympic Gold Medal, 2023/2024 SheBelieves Cup, and 2023 CONCACAF W Championship** by optimizing physical performance strategies and data-driven decision-making.

#### Lead Data Analyst, Guardian Premier Solutions

March 2022 – June 2022

- Pulled reports from databases and created R scripts to streamline data wrangling processes.
- Developed a Shiny app summarizing physiological data, improving internal reporting capabilities.
- Mentored team members by teaching data science concepts, including data cleaning, visualization, and introductory machine learning.

#### Software Developer/Data Analyst, Guardian Premier Solutions

August 2021 – March 2022

- Created a Human Performance dashboard for company-wide use, flagging individuals based on physiological data.
- Conducted analysis of new technologies using Python and its libraries.
- Built predictive models using random forest and Bayesian probability to forecast candidate success rates, integrating results into a dynamic dashboard.

#### Human Performance Technician, Guardian Premier Solutions

June 2020 – August 2021

- Monitored physiological responses to training, including live monitoring and sleep tracking for Air Force trainees.
- Generated reports in Smartabase highlighting critical red flags for stakeholders.
- Organized educational discussions and trained new technicians to ensure team success.

#### Certifications

Essential Causal Inference Techniques for Data Science, obtained September 2024

Google Cloud BigQuery Basics for Data Analysts, obtained April 2022

Fusion Sport Smartabase Certificate, obtained September 2021

Kaggle Intermediate Machine Learning, obtained September 2021

IBM Data Science Certificate, obtained Jan 2021

Sparta Science Level 1, obtained Dec 2020

CoachTech Soccer Opposition Scouting and Analysis, obtained May 2020

US Soccer Federation D LICENSE, obtained Feb 2019

NASM Performance Enhancing Specialist, obtained Sept 2018