Pedro Afonso Monteiro Pedro

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PROJECTS

VirtIAFut

Built a pipeline for detecting, tracking, and predicting player/ball movements in football videos.

- Applied **YOLOv8** for object and field keypoint detection.
- Used **ByteTrack** for tracking elements.
- Clustered teams by color using **SigLIP**, **UMAP**, and **K-Means**.
- Created a dataset of 500+ frames with player/ball coordinates.
- Developed a **Transformer** model achieving MAE: 900.69 and R^2: 0.5171.
- Applied **homography** to project coordinates onto a 2D field, visualizing predictions vs actual movements.

Olympics Analysis

Developed an interactive Olympics data dashboard using **Streamlit** and **Pandas**.

- Cleaned and processed 270K+ athlete records to enable accurate demographic and performance insights.
- Conducted **analysis** across 35+ sports and 50+ events, including medal tally, participation, and athlete stats.
- Built 10+ dynamic visualizations with **Plotly** for real-time filtering by year, sport, and country.
- Improved data accessibility with a user-friendly, responsive interface for exploratory analysis.

EDUCATION

Computer Engineering Bachelor, Polytechnic Institute of Leiria

SKILLS

Languages: Portuguese - Native, English - B2.
Technical: Python (PyTorch, TensorFlow), SQL, JavaScript
Tools: Docker, Git, JIRA, BitBucket, Trello, GitKraken, Postman, Android Studio, Streamlit, Jupyter, MySQL, AI Studio, Tableau, Power BI, Excel
Certificates: Git Certified Specialist (GitKraken), Get the most out of JIRA
Experiences: University Futsal Team Captain; 3x National University Futsal Championships – 2x 3rd place