

Weekly Report

1. Introduction

The project aims to assess how cognitive states influence athletic readiness, specifically predicting RSImod. Due to the unavailability of a dataset, this week focused on researching key terminologies, methodologies, and literature.

2. Progress Made

a. Literature Review

- Cognitive Functions & Athletic Skill Levels: Higher-skilled athletes perform better in cognitive tests, indicating a link between cognition and performance.
- AIQ and Performance Outcomes: AIQ helps predict athletic success.
- Neuroassessment in Sports: Evaluates performance potential using cognitive assessments.

b. Key Terminologies

- Cognitive Assessment: Evaluates mental functions like memory and attention.
- RSImod: Measures explosive strength using jump height and time to takeoff.
- xAI: Enhances transparency in machine learning predictions.

3. Challenges Encountered

- Data Acquisition: Finding a dataset linking cognitive assessments with RSImod is difficult.
- Resource Limitations: Limited access to relevant research papers and data.

4. Plans for the Next Week

- Extended Research: Look for alternative datasets in academic journals.
- Expert Consultation: Connect with professionals in sports science and cognitive psychology.
- Skill Development: Learn data preprocessing and explainable AI techniques.

5. Materials & Resources

- **Research Articles:**

- * Cognitive Functions & Athletic Performance
- * AIQ & Performance

- **Web Resources:**

- * How S2 Works
- * Sports Data Sets - Sports & Society Initiative

- **Books:**

- * 'Sport and Exercise Psychology: A Critical Introduction' - Aidan Moran

* 'Foundations of Sport and Exercise Psychology' - Robert S. Weinberg & Daniel Gould