

Progress Report 3:

Sports Management Portal for Injury Prevention, Performance, and Athlete Management Using Machine Learning

Prepared for

**CSIS4495 Applied Research Project
Section 002**

Presented to

**Padmapriya Arasanipalai Kandhadai
CSIS4495 Section 002**

Presented by

**Juan Carlos Katigbak
300366535**

Table of Contents

Work Logs Page 01

**Work
Description** Page 02

Repo Check-In Page 03

Work Logs

Page 01

Juan Carlos Katigbak		
Date	Number of Hours	Description of work done
March 18, 2025	6	Continued with Proof of Concept 2 and took the time to strategize/brainstorm how to make the project usable for the non-data analyst basketball athlete who wants to see his risk of injury based on his inputs into the app. Uploaded a rough sketch of how my data visualization will come out in the frontend called "Rough Draft of Data Visualization.pdf" in the Repo in the Implementation folder under Proof of Concept 2 folder.
March 19, 2025	3	Continued with Proof of Concept 2 and continued strategizing/brainstorming this time finalizing how I want the Final Dataset csv file to be like for the machine learning of Proof of Concept 2
	3	Worked on Updated - Cleaned Dataset So Far.csv.zip and uploaded to Repo in the Implementation folder under Proof of Concept 2
March 20, 2025	6	Did some updates on Updated - Cleaned Dataset So Far.csv.zip and uploaded to Repo in the Implementation folder under Proof of Concept 2; this is a continuation of cleaning my dataset to ensure that it can be trained by 2 or 3 algorithms and finally be created as the final app of the project
March 21, 2025	6	about Proof of Concept 1 and putting them in a folder named "Archive" just so the filing is clean. Proceeded to do the same with some files in Proof of Concept 2 folder which is also in the Implementation folder by putting most of the files in an "Archive" folder of Proof of Concept 2 folder so the only ones not archived are Rough Draft of Data Visualization.pdf and Updated - Final Cleaned Dataset.csv.zip. The Updated - Final Cleaned Dataset.csv.zip is my dataset that I will use moving forward for Proof of Concept 2 which I just accomplished today and uploaded in Repo which is subject to edits depending on the outcome with training the dataset using 2 to 3 algorithms which will decide how the final project will look like.
March 23, 2025	3	sports_management_portal folder containing the files for Proof of Concept 2 with the new data visualizations uploaded in Repo
	1	Finished "JuanCarlosK_ProgressReport3.pdf", uploaded it on Blackboard and added it to Repo

Work Description

Page 02

This week of March 17 to 23, 2025, I continued doing PHASE 3: Build Minimum Viable Product and Testing having finished another of my Microsoft Planner cards which was Finalizing Machine Learning Algorithms to predict injuries based on NBA Performance data last March 21, 2025 so I am going to benchmark 3 algorithms with my final cleaned dataset going forward: Random Forest, XG Boost, and Support Vector Machine. I really took the time to strategize/brainstorm this week on how to make the project usable for the non-data analyst basketball athlete who wants to see his risk of injury based on his inputs into the app. Using this time upon the suggestion of Ma'am Priya, I was able to make a rough sketch of how my data visualization will come out in the frontend called "Rough Draft of Data Visualization.pdf" which I uploaded in the Repo.

I was not satisfied with the cleaned dataset that I made the previous week because I needed more features and a lot of the Kaggle sources where I got the data was lacking. This prompted me to proceed with making a new one called "Updated - Final Cleaned Dataset.csv" which I uploaded in the Repo. This dataset was created with the help of <https://www.nba.com/stats> for the performance stats of the NBA players focusing on the current Los Angeles Lakers players and <https://www.prosportstransactions.com/basketball/Search/Search.php> listing all the injuries of the NBA players also focusing on the current Los Angeles Lakers players. This will be the dataset that I will use moving forward for Proof of Concept 2 which I just accomplished this week. The dataset is subject to edits depending on the outcome with training the dataset using the 3 algorithms which I will benchmark and will decide how the final project will look like.

The Proof of Concept 2 app was created again using Django with some new data visualizations that I proceeded to upload in the Repo.

Finally ended the week by finishing Progress Report 3 which I uploaded to Blackboard and added to the repo.

Repo Check-In

Page 03

The files and folders I have checked in the repo are as follows:

1. Implementation folder - organized the folders so all the old Proof of Concept 1 files were placed in a folder called Archive. The other folder Proof of Concept 2 contains the following: an Archive folder just to clean up and put all my Proof of Concept 2 references in one folder; a Rough Draft of Data Visualization.pdf file which is a rough sketch of how my data visualization will come out in the frontend; an Updated - Final Cleaned Dataset.csv.zip file which will be the dataset that I will use moving forward for Proof of Concept 2 and is subject to edits depending on the outcome with training the dataset using the 3 algorithms which I will benchmark and will decide how the final project will look like; sports_management_portal folder containing the files for Proof of Concept 2 with the new data visualizations.

2. Reports & Documents folder - contains Progress Report 3.