

Progress Report 2: Sports Management Portal for Injury Prevention, Performance, and Athlete Management Using Machine Learning

Prepared for

**CSIS4495 Applied Research Project
Section 002**

Presented to

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Work Logs

Juan Carlos Katigbak		
Date	Number of Hours	Description of work done
March 11, 2025	3	Restarted doing the project again by making another proof of concept called Proof of Concept 2 this time trying to make the project a little bit closer to what Ma'am Priya suggested during the Midterm Check-in which is to focus on using machine learning to predict sports injury risk based on NBA players performance statistics this time providing benchmarks to know which 2 or 3 algorithms predict best for this and to show data visualizations of a basketball athlete wanting to see his injury risk by means of dashboards. So I went back to looking for NBA injury datasets to try to merge the dataset with my current NBA performance statistics dataset and train it to create a model for machine learning for my project. I give acknowledgement to Sir Nikhil Bhardwaj from his CSIS4260 Special Topics in Data Analytics class because he made us do an assignment last week which required us to use benchmarks and dashboards to compare the algorithms that were used. I also give acknowledgement to the Kaggle contributors for providing these datasets which I uploaded in the Repo in the Implementation folder under Proof of Concept 2 folder.
March 12, 2025	3.5	Still currently working on Proof of Concept 2 of trying to make the project a little bit closer to what Ma'am Priya suggested during the Midterm Check-in which is to focus on using machine learning to predict sports injury risk based on NBA players performance statistics this time providing benchmarks to know which 2 or 3 algorithms predict best for this and to show data visualizations of a basketball athlete wanting to see his injury risk by means of dashboards. So still cleaning the NBA data found in the Implementation folder under Proof of Concept 2 that I got from the Kaggle contributors to make it ready for training.
March 15, 2025	3	Still currently working on Proof of Concept 2 of trying to make the project a little bit closer to what Ma'am Priya suggested during the Midterm Check-in which is to focus on using machine learning to predict sports injury risk based on NBA players performance statistics this time providing benchmarks to know which 2 or 3 algorithms predict best for this and to show data visualizations of a basketball athlete wanting to see his injury risk by means of dashboards. So still cleaning the NBA data found in the Implementation folder under Proof of Concept 2 that I got from the Kaggle contributors to make it ready for training.
March 16, 2025	3	Still currently working on Proof of Concept 2 of trying to make the project a little bit closer to what Ma'am Priya suggested during the Midterm Check-in which is to focus on using machine learning to predict sports injury risk based on NBA players performance statistics this time providing benchmarks to know which 2 or 3 algorithms predict best for this and to show data visualizations of a basketball athlete wanting to see his injury risk by means of dashboards. So whatever NBA data found in the Implementation folder under Proof of Concept 2 that I got from the Kaggle contributors to make it ready for training was uploaded to Repo in the same folder as "Cleaned Dataset So Far.csv.zip". Uploaded also my assignment from the CSIS4260 Special Topics in Data Analytics class called "Katigbak_300366535_Assignment1.zip" in the Repo in the Implementation folder under Proof of Concept 2 folder as a reference.
	1	Finished "JuanCarlosK_ProgressReport2.pdf", uploaded it on Blackboard and added it to Repo

Work Description

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This week of March 10 to 16, 2025 was the official start of PHASE 3: Build Minimum Viable Product and Testing having finished one of my Microsoft Planner cards which was Finalizing NBA Data composed of Performance and Injuries last March 12, 2025. I went back to looking for NBA injury datasets to try to merge the dataset with my current NBA performance statistics dataset and train it to create a model for machine learning for my project. This means that moving forward I will be using only NBA datasets which I will be training with different algorithms to be able to decide which 2 or 3 algorithms are best used for the prediction of basketball sports injuries.

The previous week of March 3 to 9, 2025 had a dual purpose in the sense that I needed to complete an assignment in another class CSIS4260 Special Topics in Data Analytics which required us to use benchmarks and dashboards to compare the algorithms that were used which I uploaded on March 16, 2025 in the Repo in the Implementation folder so that I have something to build reference on while I make my project.

This whole week was about cleaning the NBA data found in the Implementation folder under Proof of Concept 2 that I got from the Kaggle contributors to make it ready for training and whatever was cleaned so far was uploaded in the Repo and this file is the Cleaned Dataset So Far.csv.

Finally ended the week by finishing Progress Report 2 which I uploaded to Blackboard and added to the repo.

Repo Check-In

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

1.Implementation folder - contains a new Proof of Concept 2 folder with file "Basketball Transactions Search Results.pdf" for the NBA injured list through the years, a folder "Dataset References" containing folders of Kaggle contributors with NBA datasets that I am merging with my current NBA dataset, a "Cleaned Dataset So Far.csv.zip" which is the merged NBA datasets from the Kaggle contributors with my current NBA dataset, and a zipped folder called "Katigbak_300366535_Assignment1.zip" which is an assignment from my CSIS4260 Special Topics in Data Analytics class which required us to use benchmarks and dashboards to compare the algorithms that were used and this will serve as a reference.

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

3. README.md - updated with steps on how to install project using either macOS/Linux's Terminal or Windows' Command Prompt