Video gaming : Modelling Simulation play to emulate users' gameplay in PES 2020 (mobile Version)

Provide a brief description of your company, industry, or business.

**Disclaimer** : This project can have jargons, and is a bit too particular about the chosen topic, so you would have a hard time understanding the finer details  
Its been seen that, at least in the phone version of the **PES 2020,** the simulation mode of gaming where the game goes on as usual, only that instead of the users playing manually, the game tries to emulate the users' gameplay as in simulation. So far PES 2020 hasn't been able to do that much satisfactorily. This is an attempt to design the ML program that would track the necessary features of a manual gameplay and then apply it in an attempt to closely emulate the users' gameplay style.

Is the description of the business situation clear?

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|  | 0 points  No |  |
|  | 1 point  Yes |  |

Referring to the five stages of machine learning readiness, where does your company lie, and why? Remember to consider data, strategy, and expertise.

I'm stating here that this is an amendment to an already present application, PES 2020.The project I'm proposing is at the Competent/Proficient stage, for sure.  
Now, regarding the stage we'll consider : **DATA :** This data can be easily harnessed, although currently PES 2020 online gaming is troubled by network issues so the data they would get from there would be kind of rubbish and highly biased due to input lag based on internet connectivity. So their next chance of getting good, unbiased and meaningful data is **offline** **gaming, VS COM** matches. After each offline game, the game log can be uploaded to the servers along with usual user progress data. Even though they currently moniter data but they don't moniter the details, for ex. supposing does the user use long or short passes for his build-up play, aside from the fact that the in game player is inclined towards a different game plan/style (Like trying to release Messi behind the defense via long balls or making Jamie Vardy to play intricate passes in between the lines, now it's not like Messi can't collect long balls or Vardy can't play short intricate passes, it's just that it's not suited to their game style. Now, if a user forces Messi to collect long balls behind the defense, the ML program should give the users' gameplay more weightage compared to the in game players' play style, and while simulating, it should force Messi to collect long balls over making him play intricate passes in between the lines.  
 **Strategy** : The strategy should be to implement the emulation of users' gameplay close to perfection as the number of games he plays increases. Now if they want to do that they should define a threshold above which the users' gameplay would be emulated closely in simulation mode, as to emulate closely a large amount of data would be needed to be stored, which would be a burden on the company infrastructure as well as the users' hardware. The game size would increase, the game minimum specs would increase but with the promise of much better experience and service.  
**Expertise :** We can hire an ex-footballer or an ex-coach as domain experts to handle the gaming concerns and behaviors.

Identification of machine learning readiness

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|  | 0 points  The assigned stage of readiness doesn't make sense or there isn't any explanation for why the company is categorized at that stage. |  |
|  | 1 point +1.5 pts because of a tie  The explanation for the chosen stage makes sense but the explanation in terms of data, expertise, and strategy is not clear. | Photo of learner David Rafferty |
|  | 2 points  The stage is appropriately chosen and the explanation justifies the choice in terms of data, expertise, and strategy. |  |

What business outcome are you supporting with your machine learning project? How is this outcome relevant and important for the company? How will you evaluate whether the desired outcome is being achieved?

The users should love the simulation gaming as much as the manual gaming experience, and we would know this by the increased gameplay quality, knowing their gameplay is being emulated the users would focus on proper gameplay, rather than just passing the ball around and shooting and then see what happens. This would engage our users more and increase the quality of the gameplay overall.The outcome is highly relevent in terms of importance as it increases the degree of engagement of users.We can evaluate this personally, also we will see a spike in the progress of **simulation** campaign and seasons of users.

Clear outcome

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|  | 0 points  No business outcome was provided or the description was too vague to provide concrete guidance. |  |
|  | 1 point  A business outcome that can be used to guide the project was clearly defined. | Photo of learner Shanmugapriya K SPhoto of learner David Rafferty |

R​elevance of outcome

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|  | 0 points  It is not clear why the business outcome is relevant to the company, or the importance of the outcome isn't clearly stated |  |
|  | 1 point  The business outcome is clearly relevant to the company but the importance is inappropriate or not clearly explained. Or vice-versa |  |
|  | 2 points  The business outcome is relevant to the company and the importance of the outcome is clearly stated. | Photo of learner Shanmugapriya K SPhoto of learner David Rafferty |

Clear evaluation

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|  | 0 points  No evaluation measure was described, or the evaluation measure described does not make sense or isn't actually measurable. |  |
|  | 1 point +1.5 pts because of a tie  An evaluation measure has been proposed but it's not clear how it will actually be measured. | Photo of learner David Rafferty |
|  | 2 points  The given evaluation measure is clear and measurable. |  |

What machine learning project will you propose to support this business outcome? At a high level, what will your QuAM be doing? Make the case that this is a viable project (at least in theory) and relates to your overall business goals.

ML program to boost the closeness with which the game emulates a users' playing style in simulation mode.  
  
The ML program will try to find trends in the gameplay style of a users by measuring various features such as "where does a user attack from" = left, center, middle ; "how does he finish one on one" = places the ball, uses power to score ,etc and such other attributes.  
This will definitely give a boost to the current number of users' on PES platform as it's a users' dream to see someone play like him/her that reminds him/her of themselves even though it's just a computer in this case, it's an emotional thing to see someone trying to emulate you, thus this would be a successful venture.

Machine learning problem definition

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|  | 0 points  No viable machine learning project is described. |  |
|  | 1 point  There is a proposal for a machine learning project but it is not clear how it might be possible or there's not enough detail to understand the project. |  |
|  | 2 points  There is a clear description of the machine learning project, I understand what QuAM might be built. | Photo of learner Shanmugapriya K SPhoto of learner David Rafferty |

Appropriate to business outcomes

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|  | 0 points  The connection between the machine learning project and the business outcome is unclear (or explanation for one or the other is missing). |  |
|  | 1 point  I can see how the machine learning project might relate to the business outcome but the explanation is unclear or implausible. |  |
|  | 2 points  The connection between the machine learning project and business outcome is clearly and thoroughly described. I believe that this machine learning project will successfully support the business goals. | Photo of learner Shanmugapriya K SPhoto of learner David Rafferty |

Project viability

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|  | 0 points  There's no description of the project's viability or no supporting explanation for the stated viability. |  |
|  | 1 point  The project seems viable but the explanation is lacking details or there are some obvious pitfalls that haven't been addressed. |  |
|  | 2 points  I feel like I understand the riskiness of the project. The provided description is thoughtful and thorough. |  |

Given the state of readiness you have described and the scope of the project you're proposing, is this a risky project, broadly speaking? That is, is it appropriate to the stage your company is at or will it provide particular challenges?

As established as company as KONAMI PES is and they have only made new inroads in the recent years, competing for the podium spot with EA FIFA, KONAMI is more than accomplished to try this project. The only challenge they will face is for this ML program to be applied it needs good access to quality data which can only be collected in real time and thus the game has to be made fully online, the game app size would increase and so would the minimum hardware specifications required to run the game efficiently would rise.

Riskiness level

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|  | 0 points  The risks have not been identified or the identified level seems wildly inappropriate. |  |
|  | 1 point  A plausible risk level was described but I'm not confident it is correct and/or the explanation is incomplete. |  |
|  | 2 points  I believe the student has correctly identified the inherent riskiness. | Photo of learner Shanmugapriya K SPhoto of learner David Rafferty |

Risk relative to ML readiness

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|  | 0 points  There was no explanation for the appropriateness of the project to the stage of ML readiness, or the explanation given was not plausible. |  |
|  | 1 point  There was an explanation of how the project fit into the described stage but it was incomplete or not entirely clear. |  |
|  | 2 points  The description clearly justifies whether this is high or low risk and relates to the ML readiness of the company in general. |  |