

Using Computer Vision in the Game of Golf to improve Amateur Player's Stance

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ABSTRACT

The research study compares the spine angles of professional golfers with that of amateurs or enthusiasts. The data is extracted from pictures/videos of the players with the help of a software which utilizes computer vision. Such a comparison will generate useful information on the differences in the performance of professionals and amateurs which golfers can utilize to improve upon their stance and hence overall golf performance.

DATA COLLECTION

- Took pictures of 60 amateur players from CGA (Chandigarh Golf Association) while they had assumed their golf stance with the driver club.
- Took the pictures of 6 global golf professionals (3 male and 3 female).
- The amateur players were also asked to fill a basic form asking for their:
 - Years of playing golf
 - Years of professional training undertaken

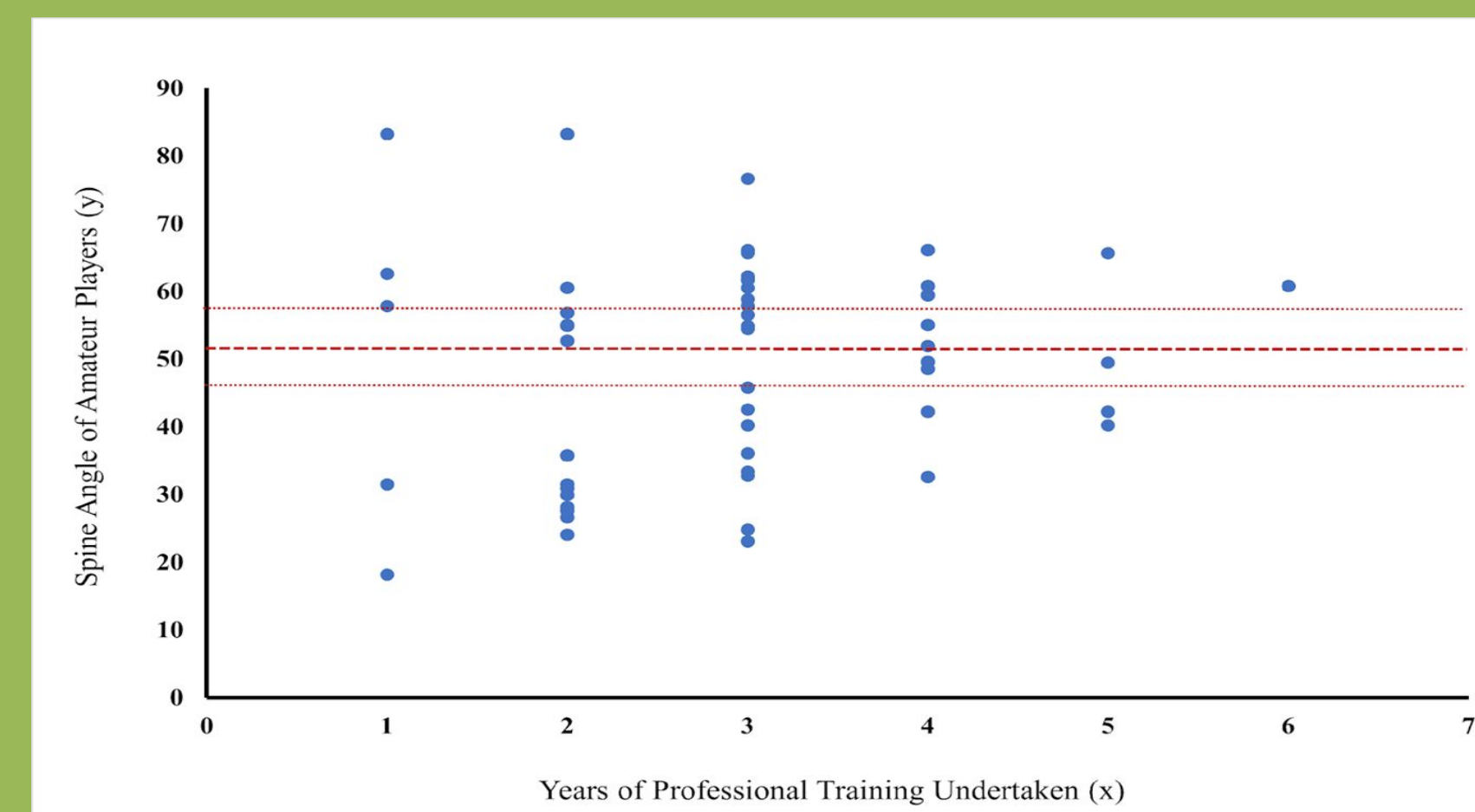
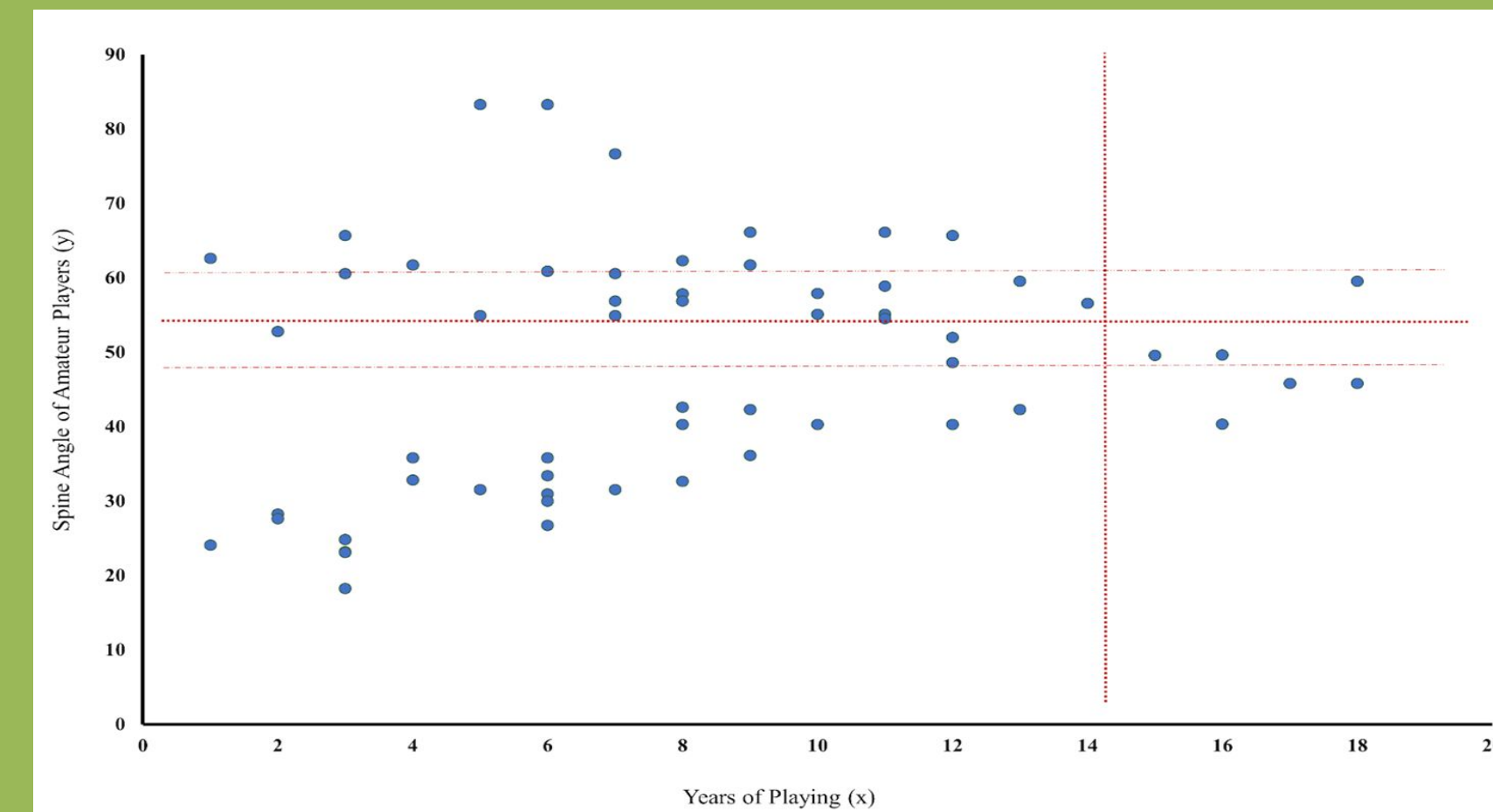
All the pictures were then taken and run through a python program that marked particular data points on the human body. Then the program extracted numerical data from those data points and from that numerical data the spine angle of the golfers was extracted. The program utilised the python library 'mediapipe'.

RESULTS

- The average spine angles of the professional golfers was 50.98
- The average professional coaching period of the professional golfers was 5.8 years and their average years of playing was 14 years.
- Analysed professional golfers data with the collected amateur golfers data and got the following graphs:

DISCUSSION AND CONCLUSION

The results of the study show that a proper spine angle can be attained by players with sufficient years of practice and training. The first graph depicts that with an increase in the number of years of playing golf the average amateur golfers attains spine angle closer to that of professionals. The second graph shows that as the number of years of professional training increase, a player's spine angle becomes closer to that of the average spine angles of the professional golfers.



Spine angle of a golf player

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