

Developing a GUI software application to predict performance of a runner

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Performance of a runner is described as a relationship between his/her speed and running duration. Usually, a runner can produce a high speed for a short duration. The longer a runner runs the less speed he/she can produce. The speed drops exponentially across duration. An algorithm has been proposed to predict the performance of a runner from speeds and durations collected from two running trials. Based on the proposed algorithm, a software application with a graphic user interface (GUI) has been developed using a Matlab. After a user entered speeds and durations from two trials and a performance distance of a runner and executed the program, the software will automatically generate a performance prediction curve, a predicted duration needed to finish the performance distance and a predicted velocity at VO₂max. Data from two running trials are easy to collect. The software is user-friendly and requires no mathematical knowledge from the user and reduces processing time and provides instant outputs.