

**SPEED
SKATING
DATA**



**SLOW
MOTION
ANALYSIS**

**VINCENZO
MAIORCA**

8 OCTOBER 2024

RACE OVERVIEW

RACE TIME



YOU
9.703s

THE BEST*
9.861s

STARTING POSITION



YOU
FRONTAL

Selected by
75%
of the best

TOTAL NUMBER OF PUSHES



YOU
31

THE BEST*
33

* Average values scored by the top 4 skaters at every world championship since 2023 (for your category)

KINEMATIC PARAMETERS



FREQUENCY



TOTAL DISTANCE

MEAN STEPS* FREQUENCY

MEAN PUSHES* FREQUENCY

YOU
1.597 steps/s

THE BEST
1.670 steps/s

YOU
3.195 steps/s

THE BEST
3.339 steps/s

FIRST 10 PUSHES

MEAN STEPS* FREQUENCY

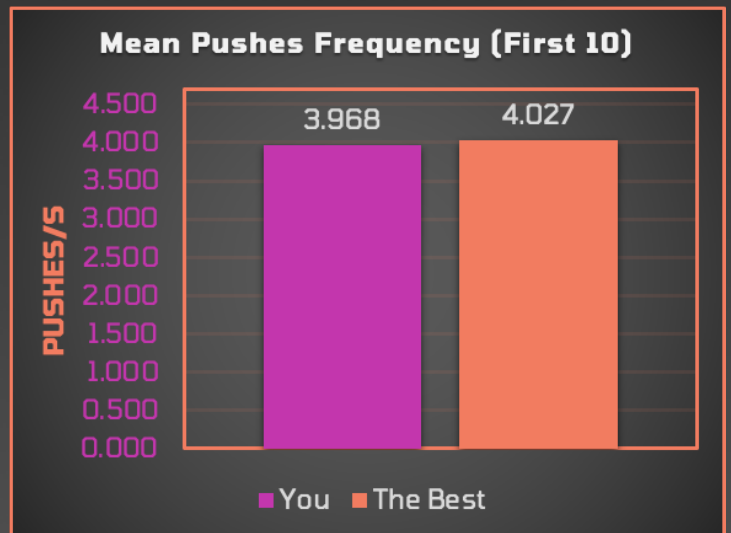
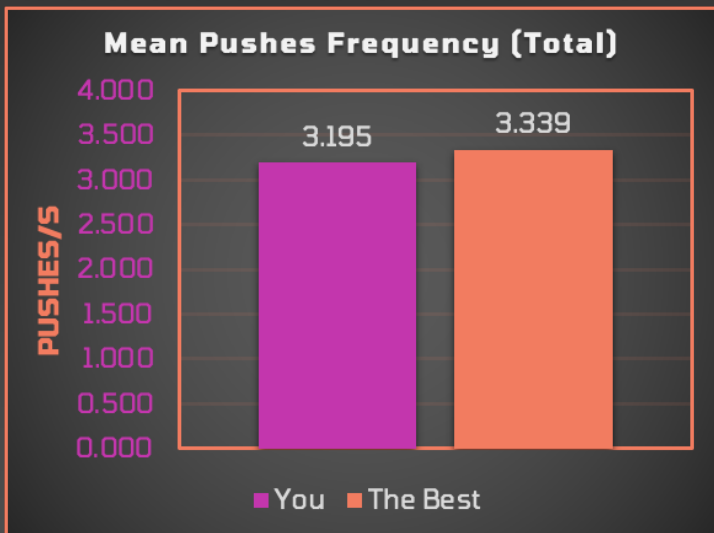
MEAN PUSHES* FREQUENCY

YOU
1.984 steps/s

THE BEST
2.014 steps/s

YOU
3.968 steps/s

THE BEST
4.027 steps/s



* Push: calculated from the take-off of one skate to the take-off of the opposite skate. Step: calculated from the take-off of one skate to the take-off of the same skate (2 pushes).

KINEMATIC PARAMETERS

STEP LENGTH



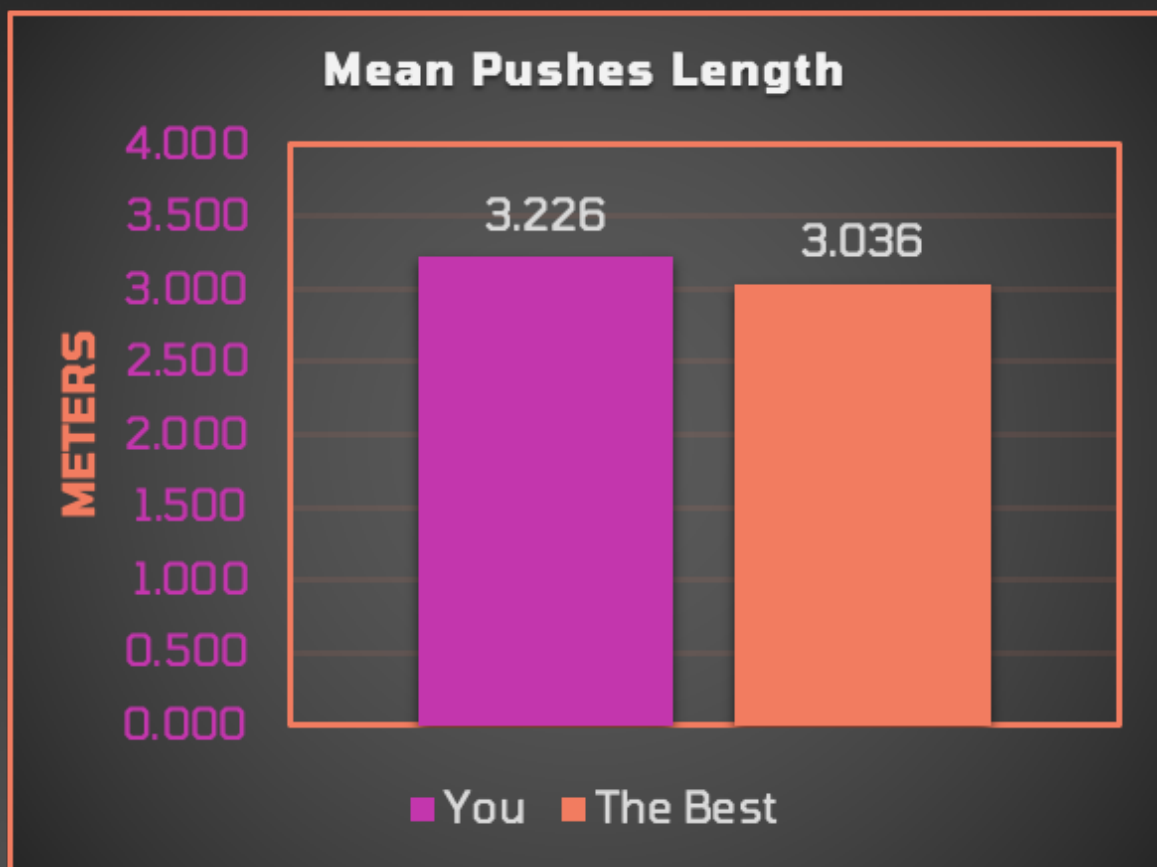
MEAN PUSHES LENGTH

YOU

3.226 meters

THE BEST

3.036 meters



* Push: calculated from the take-off of one skate to the take-off of the opposite skate.
Step: calculated from the take-off of one skate to the take-off of the same skate (2 pushes).

FLIGHT TIME

WHAT IS IT?

THE FLIGHT TIME IS THE TIME DURING WHICH NO SKATE IS IN CONTACT WITH THE GROUND.

IT STARTS WHEN THE LAST WHEEL OF THE BACK FOOT LEAVES THE GROUND AND ENDS WHEN THE FIRST WHEEL OF THE FRONT FOOT TAKES CONTACT WITH THE GROUND.



MEAN FLIGHT TIME*



YOU
0.024s

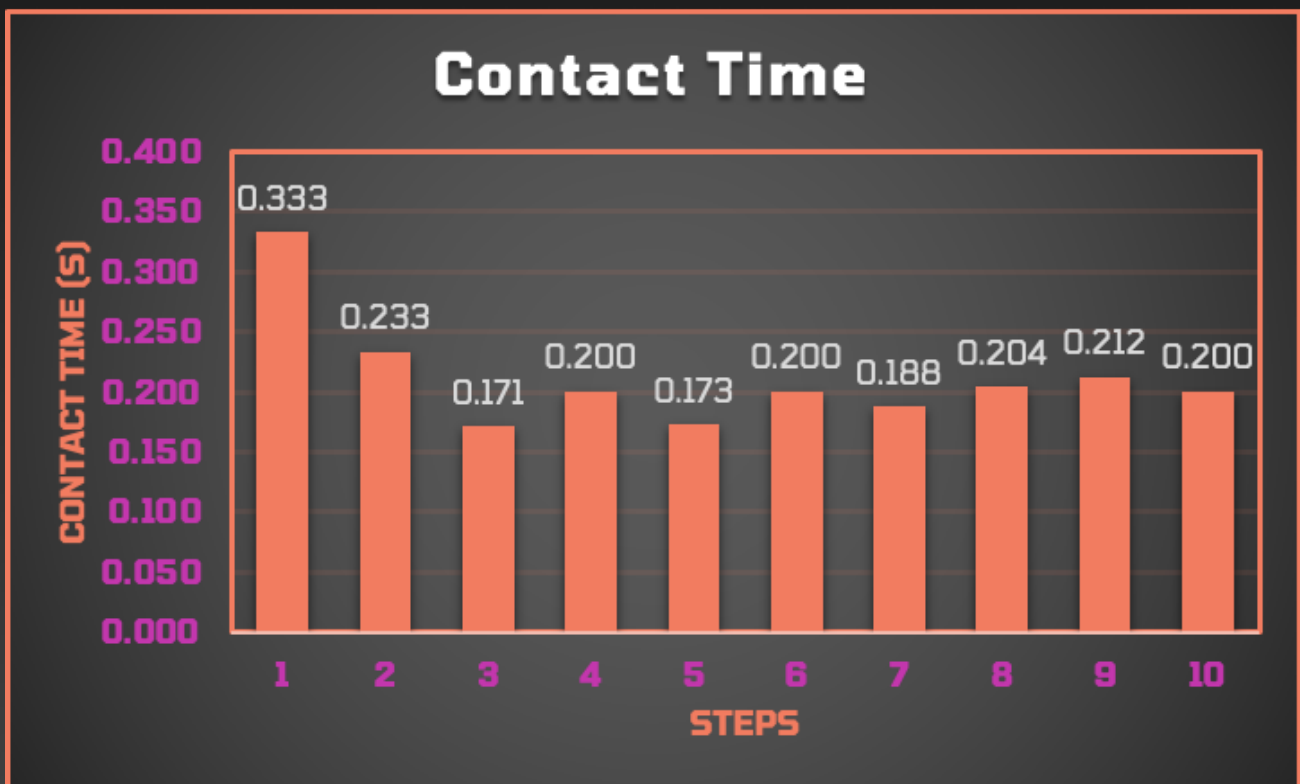
THE BEST
0.034s

* Average values for the first 10 steps.

GROUND CONTACT TIME

WHAT IS IT?

THE GROUND CONTACT TIME IS THE TIME SPENT ON THE GROUND BY A SKATE DURING THE PUSHING PHASE. IT STARTS AS SOON AS ALL THE WHEELS TAKE CONTACT WITH THE GROUND AND ENDS WHEN THE LAST WHEEL OF THE SKATE LEAVES THE GROUND.



MEAN GROUND CONTACT TIME*



YOU
0.211s

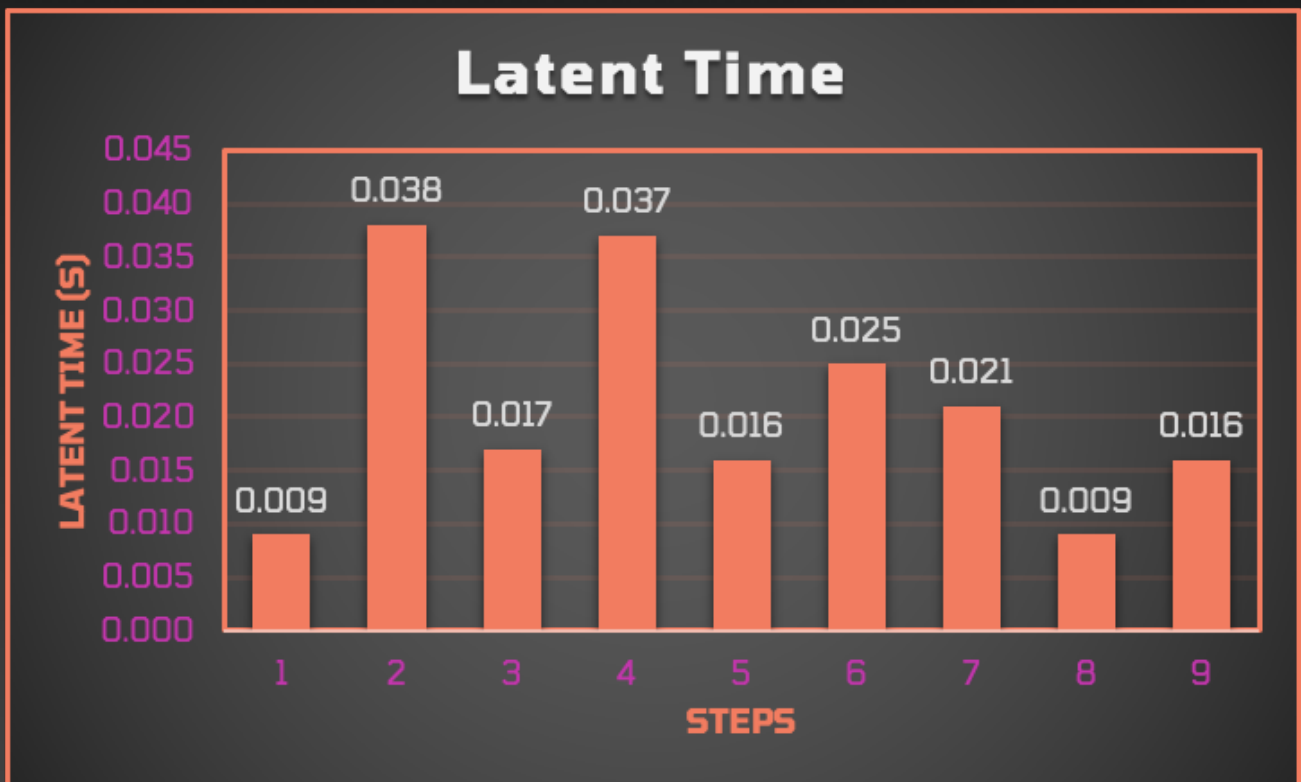
THE BEST
0.189s

* Average values for the first 10 steps.

LATENT TIME

WHAT IS IT?

THE LATENT TIME IS THE TIME DURING WHICH THE SKATE TAKES CONTACT WITH THE GROUND BUT THE PUSH IS STILL NOT EFFECTIVE. IT SPANS FROM WHEN THE FIRST WHEEL TOUCHES THE GROUND (EITHER THE FRONT OR BACK WHEEL) AND ENDS WHEN THE FOUR WHEELS TOUCH THE GROUND.



MEAN LATENT TIME*



YOU
0.021s

THE BEST
0.021s

* Average values for the first 10 steps.

TECHNICAL COMMENT

You are among the best skaters in the world for the 100m sprint event and the recorded data demonstrate it. The 9.703s time is the fifth fastest time ever and it allowed you to secure the world title at the 2023 world championships.

Starting position

You selected a frontal starting position with an externally rotated front foot, an option also chosen by the 75% of the top skaters in the world. This option allows for an easier and faster execution of the first step with a reduced involvement of the elastic component of the muscles and rotational movement, compared to a lateral start. Both The technical execution and the speed of movement are top notch.

Number of steps and step length

You managed to cover the entire distance with only 31 steps (2 steps less than the average value for the best athletes in your category) which translates to a mean push length of 3.226m. The greater step length is probably the key kinematic parameter that set you apart from the average, elite-level, sprinter.

Step frequency

Your mean step frequency for the first 10 pushes (or 5 steps) is in line with the step frequency reached by the best sprinters in the world. If we look at the entire race distance, the mean step frequency is just below the average step frequency for the fastest athletes in the world. This tiny difference is overcompensated by the greater step length. Nonetheless, working on your speed of movement while maintaining the same number of steps seems to be the most direct approach to improve your performance over the 100m distance.

TECHNICAL COMMENT

Flight Time, Ground Contact Time, Latent Time

Your flight time over the first 10 pushes is one of the lowest ever recorded, meaning that your technique is optimised to minimise the “dead-time” spent by the skate off the ground. This approach is another advantageous key aspect of your skating technique.

Your mean contact time over the first 10 pushes is 0.022 seconds longer than the average ground contact time for elite-level senior men. A shorter ground contact time is correlated with a better performance over the 100m sprint race. Working on this aspect should be a priority focus of your future training programs.

Your ground contact technique is outstanding, with your foot taking contact with the ground just below your center of mass and with the front wheel of your skate being the first to touch the ground, facilitating the onset of the Stretch Shortening Cycle. As a result of the optimisation of your skating technique, your mean latent time is in line with latent time of the best sprinters in the world. An longer latent time can result in an effective power production delay during the pushing phase.

THE SPEED SKATING DATA OFFER



BASED ON THE PRESENT REPORT, WE SUGGEST THE FOLLOWING SSD PRODUCTS AND SERVICES TO HELP YOU GET BETTER!

FASTER FEET SSD PROGRAM

REDUCE YOUR GROUND CONTACT TIME IN 12 WEEKS!
OUR "FASTER FEET" TRAINING PROGRAM WILL HELP YOU SPENDING LESS TIME ON THE GROUND AND GET TO THE FINISH LINE EARLIER.
3 TRAINING SESSIONS OF 45MINUTES PER WEEK TO PUSH YOUR SPEED TO A NEW LEVEL!



START NOW

THE SPEED SKATING DATA



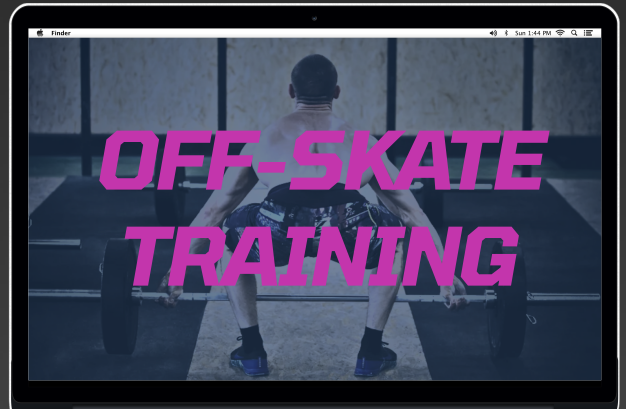
OFFER

ONLINE COACHING

THE BEST WAY TO BE FOLLOWED BY THE SSD TEAM NO MATTER WHERE YOU LIVE AND WHERE YOU TRAIN. AN EVIDENCE-BASED, PERSONALISED PLAN, SPECIFICALLY DESIGNED FOR YOUR NEEDS.

MOBILITY, STABILITY, SPEED, POWER, STRENGTH: EVERYTHING YOU NEED TO GET BETTER.

ADDRESS YOUR WEAKNESSES AND IMPROVE YOUR STRENGTHS TO BECOME FASTER ON YOUR SKATES!



APPLY NOW TO BECOME A SSD ATHLETE!

APPLY NOW