

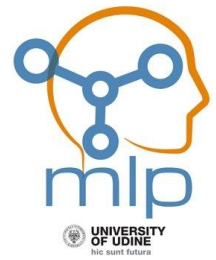


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Prof. Christian Micheloni
Machine Learning and
Perception Lab.
University of Udine



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Learning and
Perception



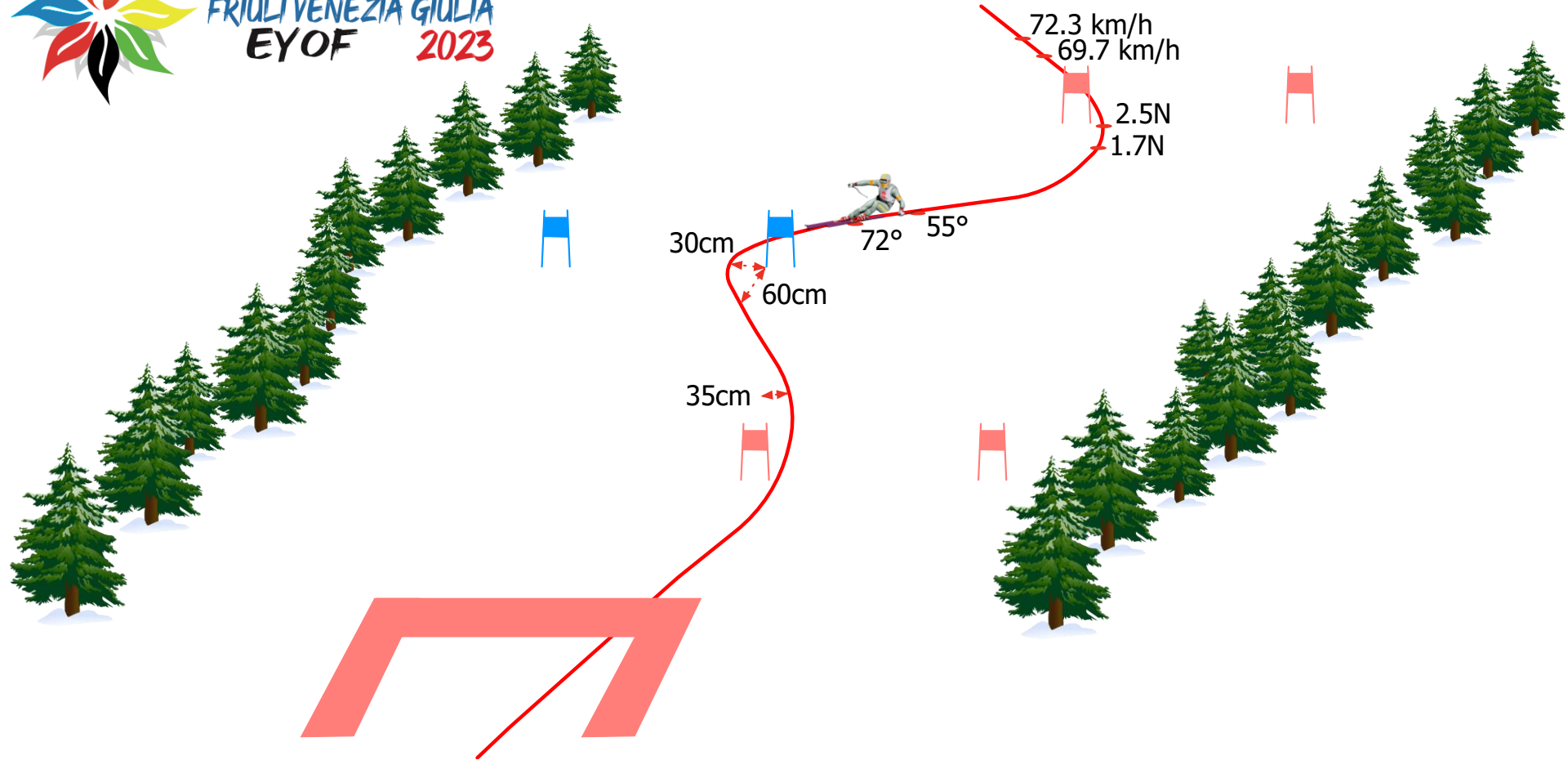
Artificial Intelligence for Alpine Winter Sports:

Passion, Vision and Dreams

Project executed together with Dr. Matteo Dunnhofer -University of Udine



Goal: Precise Description of the Performance



The Next Generation of Training Centers





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Trajectory Analysis



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KRYSTOF **KRYZL** 2:03.6
2:03.02



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DAYLOOS
KANAL SPORTOWY

TVP
SPORT HD
NA ŻYWO



104.6 km/h



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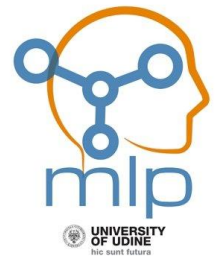
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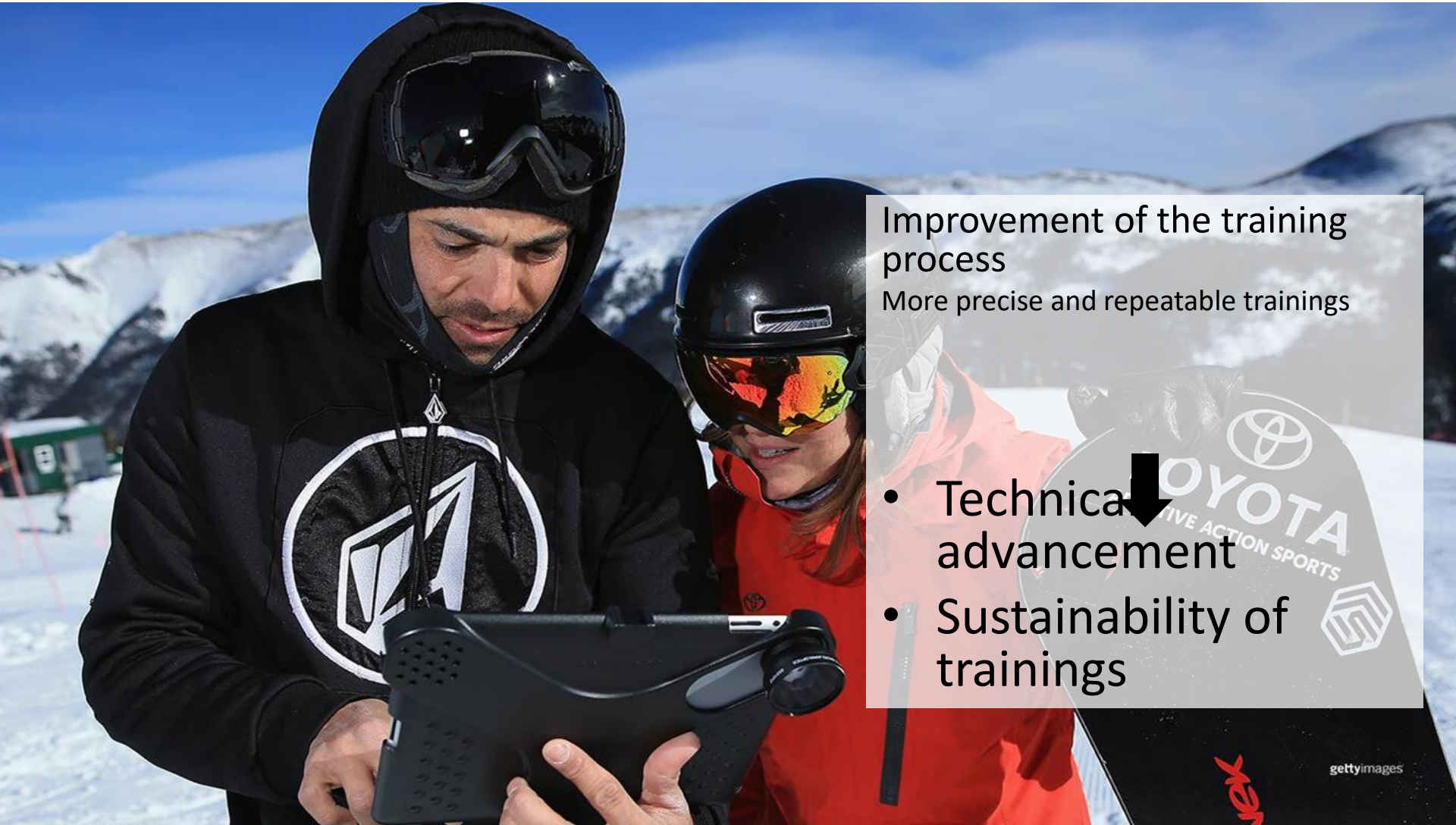


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Impact and Legacy





Improvement of the training process

More precise and repeatable trainings

- Technical advancement
- Sustainability of trainings



gettyimages

More spectacular competitions

Acquisition, analysis, and visualization of performance data in real-time



More presence of athletes in winter resorts

Not only for professional athletes

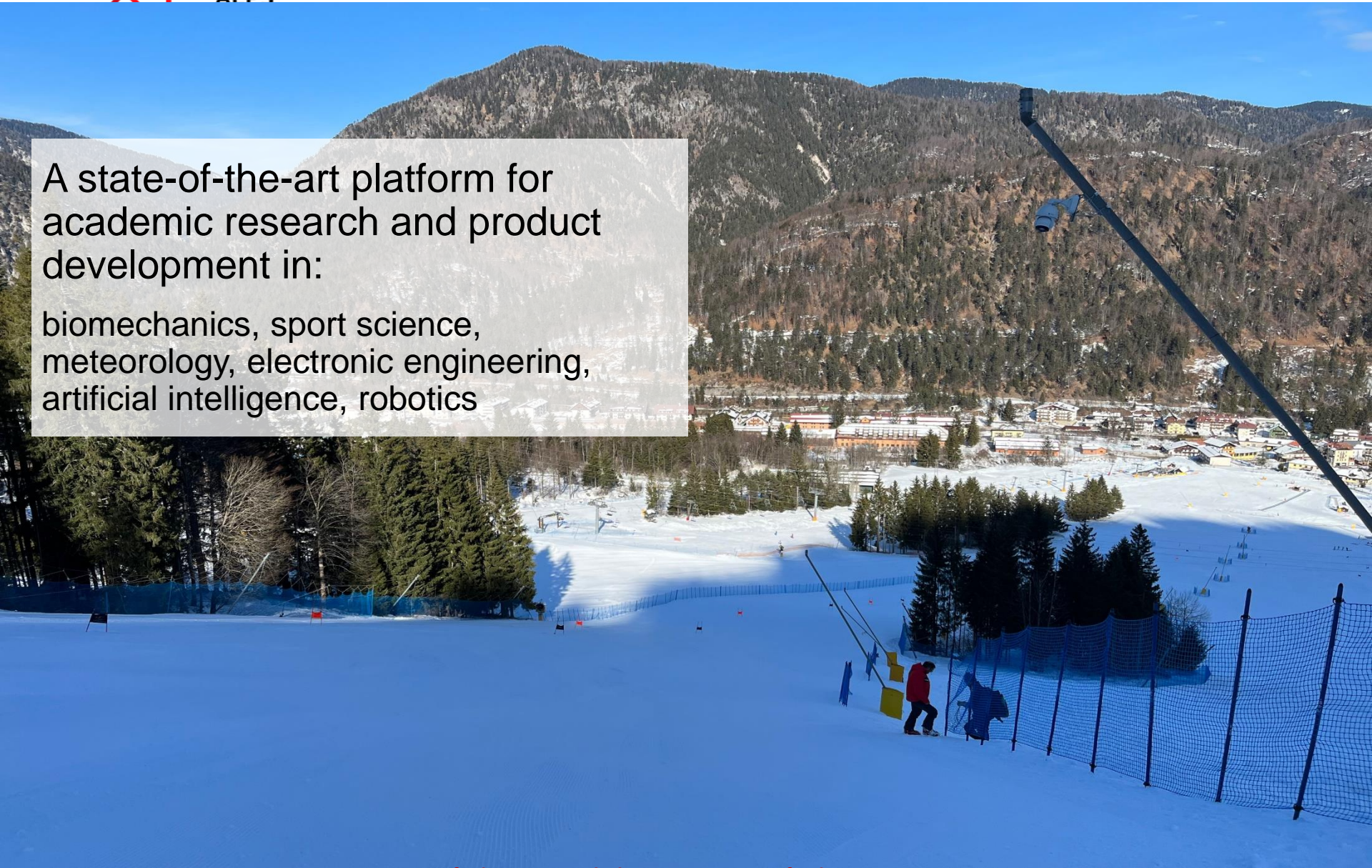
Prototype of the “ski slope 4.0” or “winter resort 4.0”

New ways of spending time in turistic locations,
with an outlook to young people



A state-of-the-art platform for academic research and product development in:

biomechanics, sport science, meteorology, electronic engineering, artificial intelligence, robotics



Thank you



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Machine
Learning and
Perception



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EYOF 2023

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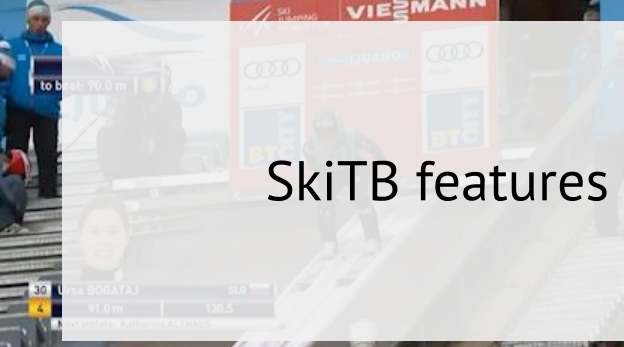


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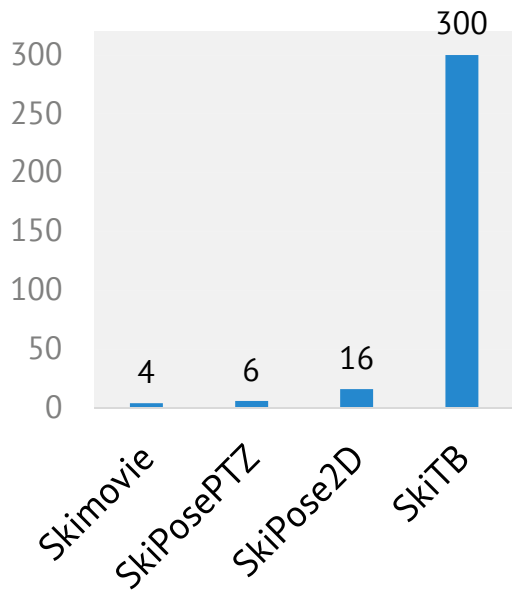
What Next?



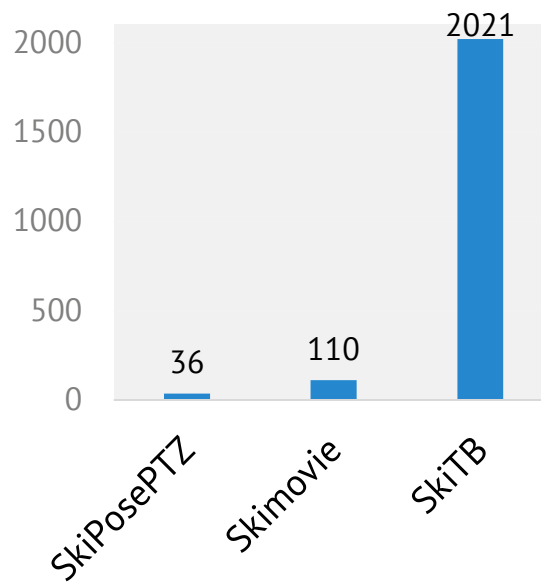
SkiTB features videos of skiers from the Top to the Bottom



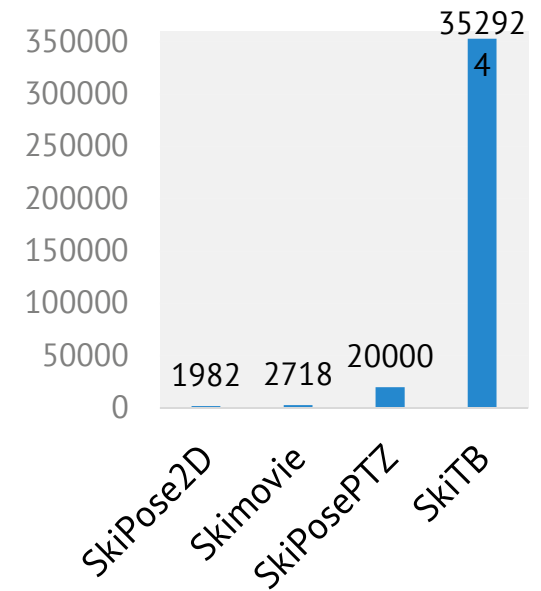
Multi-Camera Videos



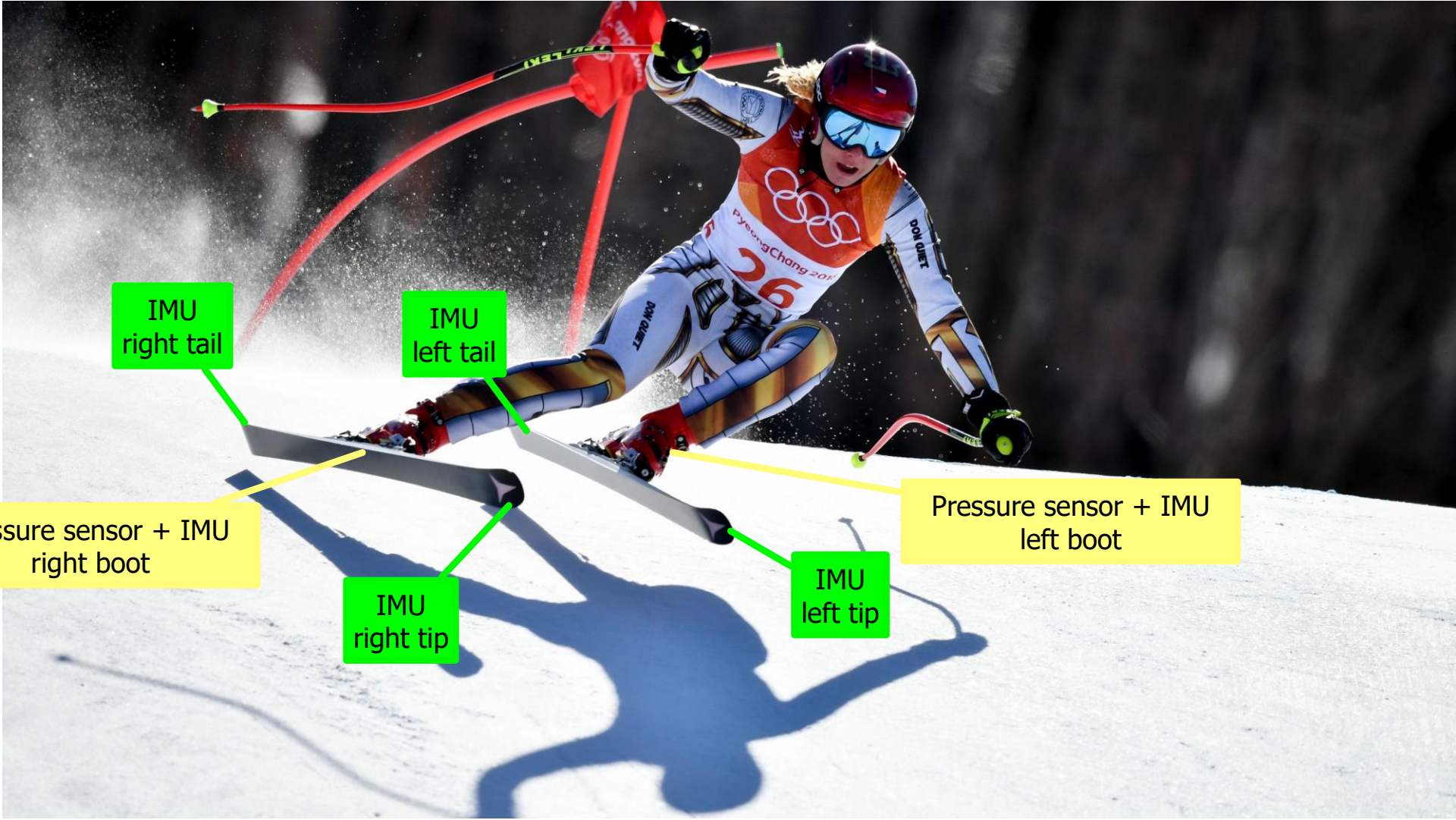
Single-Camera Videos



Frames



Athletes of the future



IMU
right tail

IMU
left tail

Pressure sensor + IMU
right boot

IMU
right tip

IMU
left tip

Pressure sensor + IMU
left boot