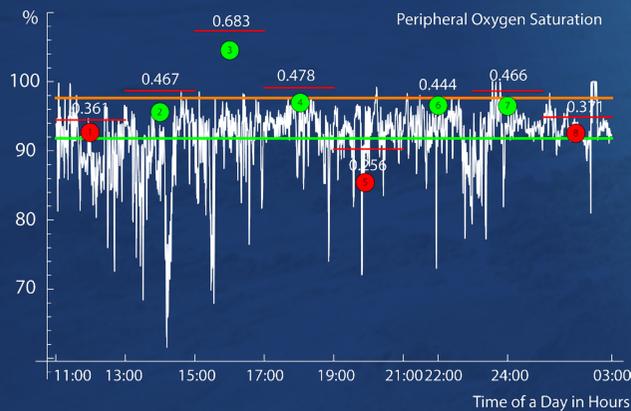


## Data and their Collection

Recently the training monitoring has become increasingly popular in the world of sports. A lot of parameters are described as useful to track behavioral parameters in order to achieve an efficient athlete and performance-oriented training monitoring. The choice of the adequate parameters depends on the sport-specific context, the goal of the monitoring program as well as on the available means and resources. We analyze both objective and subjective data to achieve these goals.



## Cassiopée Sport Platform

- Performance
- Improvement
- Risk of injury

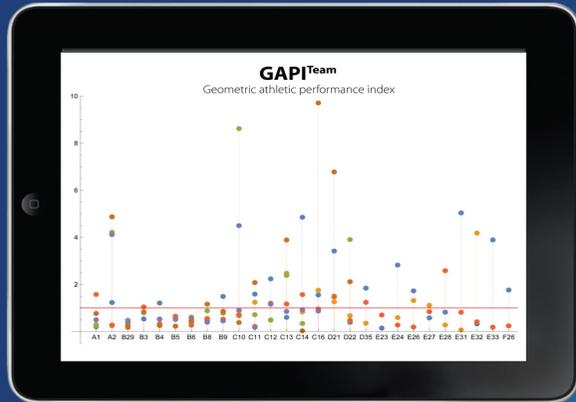
The Geometric Athletic Performance Index (GAPI) is a combination of external (e.g., distance) and subjective data (e.g., mood distortion). GAPI is the most appropriate one to monitor training and recovery monitoring among athletes. Moreover, this training monitoring system is able to predict at any week during the whole season if an athlete is located in the positive or in the negative predictive area of performance. Last but not least, GAPI indicates athletes and coaches which parameters can be modified in order to reach the positive predictive performance area and identify the risk of injury.

# Cassiopée<sup>Sport</sup>



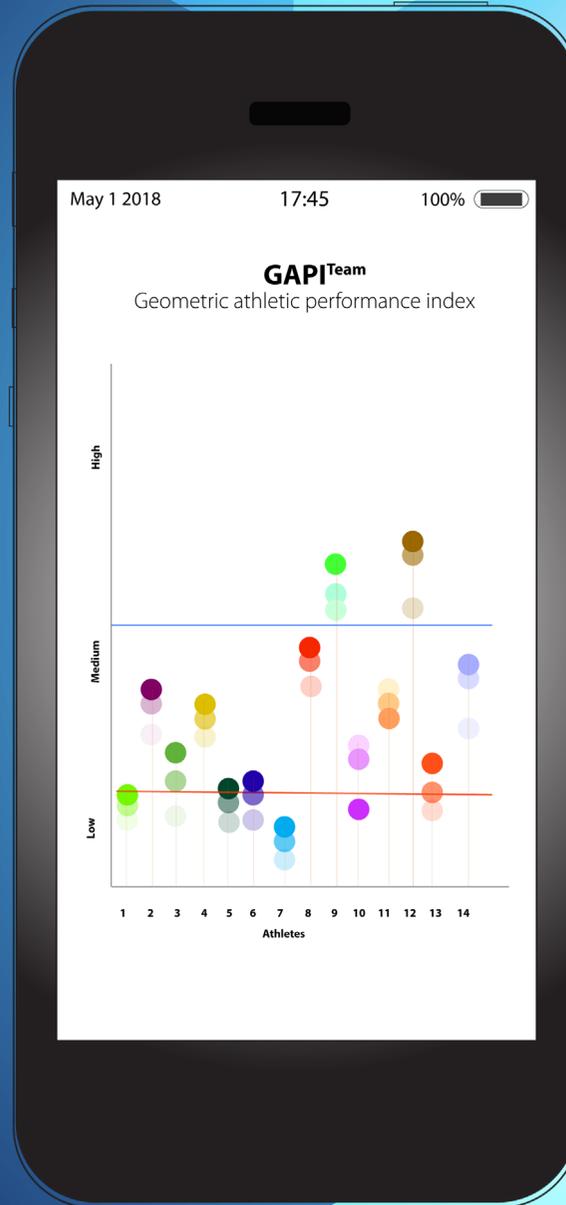
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## A Coach View

Athletes provide both objective and subjective data. We consider different parameters combinations for which we use Artificial Neural Networks geometric optimization to construct separation hyperplanes representing a positive and a negative predictive performance area. To better understand the outcome of the complex graphs obtained, we introduce the Geometric Activity Performance Index (GAPI) defined as the ratio of the positive and the negative predictive performance and risk of injury.



## Artificial Neural Networks Analyses

We implement an innovative Artificial Intelligence-based monitoring system of several training and recovery parameters assessed regularly during certain number of weeks. The result is a complex snapshot of performance, improvement and injury avoidance individualized to each athlete.

## Performance Analyses

