

Cognitive Products

Fischer4You

Cognitive Skiing Products



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MOTIVATION & GOALS

The aim of this work is to develop a sensor set up and an algorithm to assess skill level of recreational alpine skiers, which is feasible for home use.

- Finding the best position for detecting skiing skills
- Automatic analysis of skiing activities
- Communication of assessment feedback
- Coaching suggestion
- Recommendation for equipment change

Project FactBox

Project Name Fischer4You

Project ID DP1.2-1

Duration 27 Months

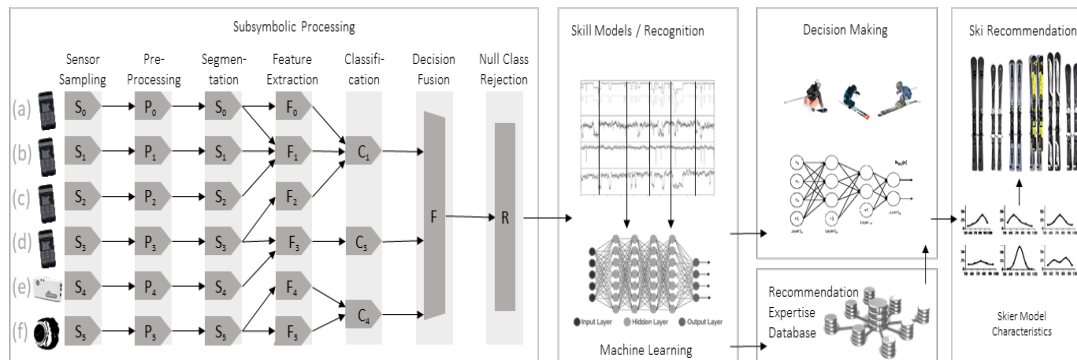
Area 1

Perception and Aware Systems

Project Lead

Prof. Dr. Alois Ferscha

APPROACH



CONTRIBUTION

Scientific contribution

Unsupervised Activity Recognition
High Dynamic Technique Recognition
Two-stage Filtering and Sensor Fusion
Data-Driven Assessment Model

Economic contribution

Customer satisfaction
Customer binding

SYSTEM ARCHITECTURE

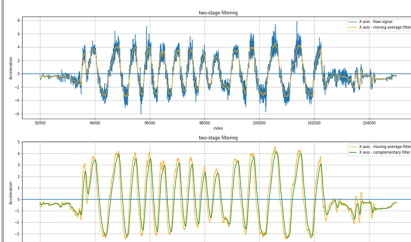
Data Collection

Collecting data from various part of the body using Xsens and Smartphone sensors.



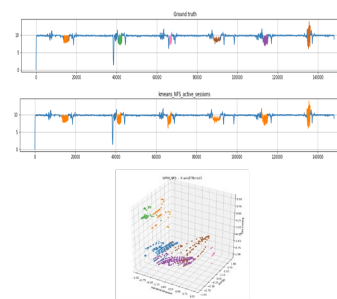
Preprocessing

fusing accelerometer and gyroscope to reduce the vibration to be minimum.



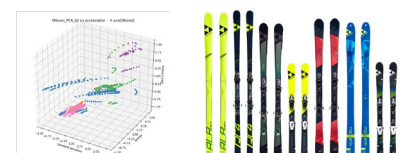
Unsupervised Machine Learning

Training unsupervised models to detect active sessions of skiing and distinct techniques.



Skill Assessment

Rating skiers and recommending them appropriate equipment based on their skills.



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