Fischer4You2

Active Learning Alpine Skiing Activities for Cognitive Enhanced Skiing Products

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MOTIVATION & GOALS

The aim of this work is to crowd source the **recognition of alpine skiing activities** on **body worn smartphones** with their respective **embedded IMUs**, which should provide

- Reliable detection of skiing activities
- Detection of Skiing Style
- **Skiing Skill Analysis**
- Communication of **Assessment feedback**
- Correction of Assessment by Providing Additional Information from Users
- **Causal Discovery** of Data Anomalies and User or Environmental Setting

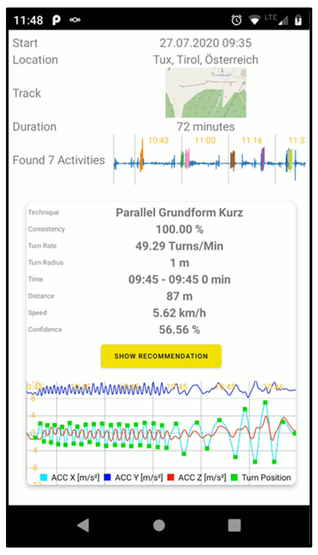
Project FactBox

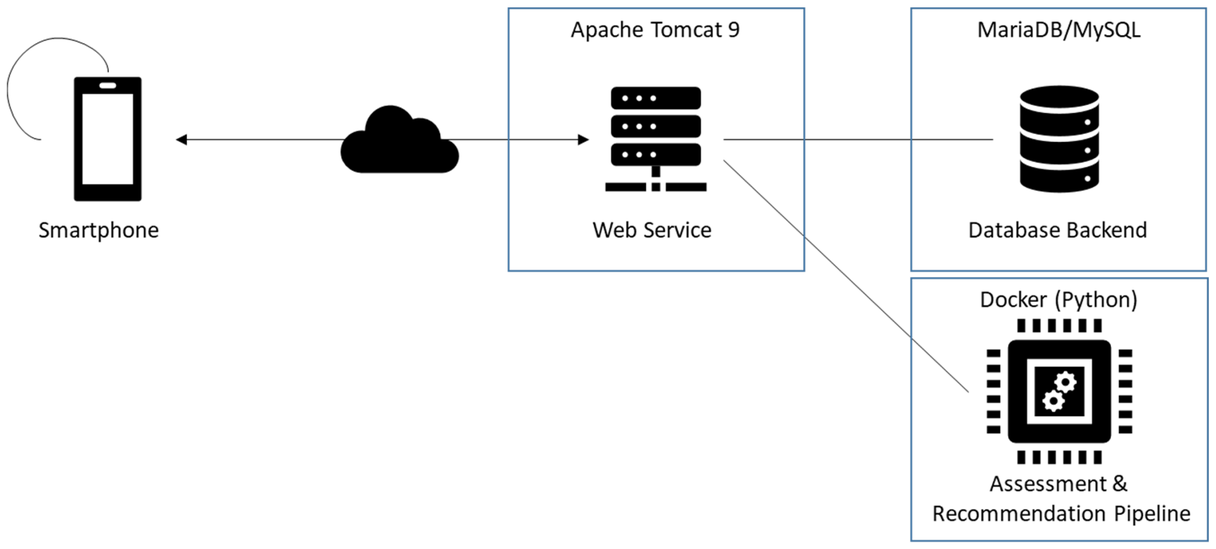
Project Name Fischer4You2
Project ID MFP II 1.3
Duration 12 Months

Area 1
Perception and Aware Systems

Project Lead
DI Michael Haslgrübler

SYSTEM ARCHITECTURE



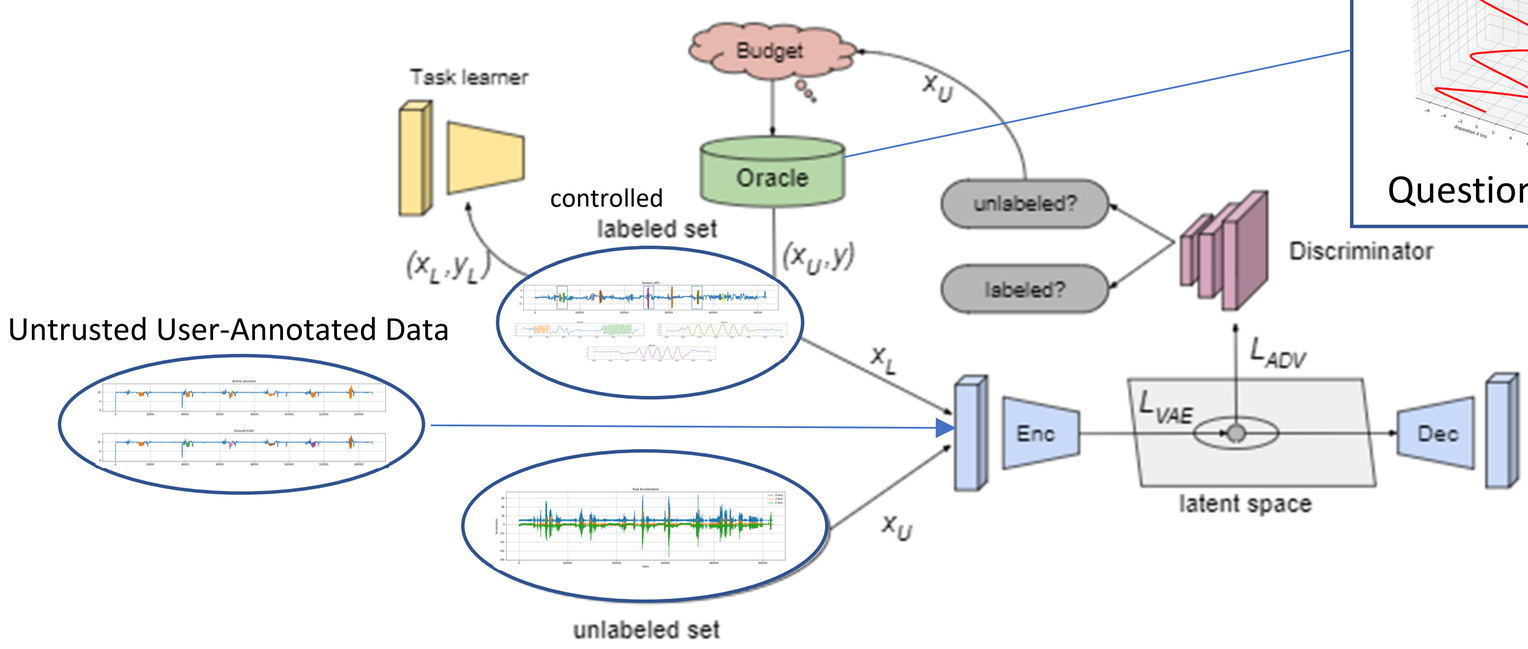


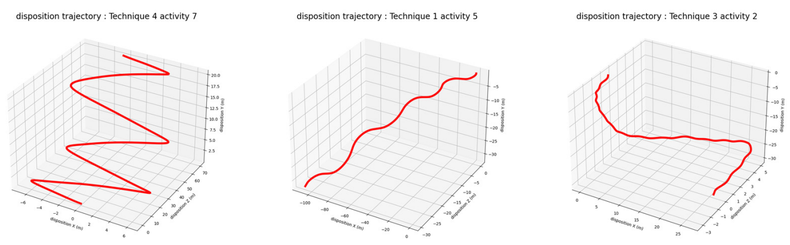
CONTRIBUTION

Scientific contribution
- Unsupervised Activity Recognition
- High Dynamic Technique Recognition
- Multi-Stage Filtering and Sensor Fusion
- Data-Driven Assessment Model

Economic contribution
- Consumer Information
- Costumer satisfaction
- Costumer binding

APPROACH





Question for the Oracle: What where you doing?

Adapted from: Sinha, Samarth, Sayna Ebrahimi, and Trevor Darrell. "Variational adversarial active learning." In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, pp. 5972-5981. 2019.

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