Case Challenge

**Title**

Gesture Recognition for an Augmented Reality Keyboard

**Motivation and high-level task description**

The maturity of augmented reality is constantly progressing. However, there is still no solution to fast text entry for professionals in mobile contexts yet. Prior touch-typing (Zehnfingerschreiben) experience could be leveraged to create easy to learn and well-performing virtual keyboards.

This task is concerned with a gesture-based augmented reality keyboard that translates touch-typing gestures into characters. The goal is to develop an online model that is able to infer which finger has performed a click both with minimal latency and maximum accuracy.

**Brief description of the dataset used in the process**

The data set contains a collection of time series of relative finger positions, curl, wrist angles, and their label. As this is current research in progress at the institute, this is an internal data set and additional data collection on a HoloLens 2 is possible.

**Brief description of the expected deliverable**

In addition to a model that classifies gestures quickly and reliably, a simple web service is created that accepts a time series and returns the respective character.