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Data Science Seminars

Friday

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PERSONALISED GAIT RECOGNITION FOR PEOPLE WITH NEUROLOGICAL CONDITIONS



Speaker

Leon Ingelse

Affiliation

LASIGE/FCUL

When

December, 17th, 14h30

Where

<https://videoconf-colibri.zoom.us/my/tjvgerreiro>

Abstract

There is a growing interest in monitoring gait patterns in people with neurological conditions. The democratization of wearable inertial sensors has enabled the study of gait in free living environments. One pivotal aspect to gait assessment in uncontrolled environments is to accurately recognize gait instances. Previous work has focused on wavelet transform methods or general machine learning models to detect gait; the former assumes a comparable gait pattern between people and the latter assumes training datasets that represent the diverse population. In this paper, we argue that these approaches are unsuitable for people with severe motor impairments and their distinct gait patterns, and make the case for a lightweight personalized alternative. We propose an approach that builds on top of a general model, fine-tuning it with personalized data.

Short bio

Leon Ingelse is writing his thesis with Alcides Fonseca on Automated Feature Engineering using Genetic Programming. He was born in Amsterdam, the Netherlands, where he also did a Bachelor in Mathematics at the University of Amsterdam. Last year he started the master of Data Science at the Faculty of Science of the University of Lisbon and collaborated with Tiago Guerreiro and Diogo Branco on the personalization of gait recognition for people with neurological conditions.