EVERSION

SENSOR FUSION WITH 9D-IMU

The acquisition of valid gait parameters is the basis of our technology in order to be able to make effective statements about a person's health. The technical challenge in recording gait parameters using 9D IMUs (acceleration sensor, gyroscope, magnetometer) is dealing with **drift**. Especially when calculating the **position and orientation of the foot during a step**, drift causes errors due to double integration of the measured values.

Project tasks:

- Calculation and mapping of step length, height, and trajectory of a step.
- Calculation using Python from data source influx DB, output format JSON
- Sensor fusion, data filtering, double integration

EVERSION Technologies is a MedTech start-up based in Constance and accompanies people on their way to a pain-free life. True to the motto HOW YOU WALK TELLS YOU HOW YOU ARE we analyze the individual gait over several hours in everyday situations with the help of IMU sensor soles. We simulate the effects of walking and shoes on the body using a precise biomechanical 3D model, independent of location, time, and specialist personnel. This lets customers understand the cause of their complaints transparently for the first time.

EVERSION co-founder and lead software developer Lucas Heitele supervises the project. Start is possible from May/June 2024 or by arrangement.

Don't hesitate to get in touch with us if you are interested or would like further information.

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