

Internship Project Description

Novel cadence detection for electric bicycles

Background

Pedal assist e-bikes are equipped with torque and/or cadence sensors. These sensors, wireless or wired, are attached to the crank, axel, or bottom bracket to detect if (and how much) a cyclist is pedaling. They act as primary input to the motor controller to regulate the power output to the motor. In the EU they also function as a figurative authorization switch, only providing power when the user is actually pedaling (otherwise it would be classified as a scooter).

Project Scope:

This internship project is your chance to think out of the box and put your technical skills to the test! Can you identify, build and demonstrate a novel means of detecting cadence/torque while eliminating the need for a traditional pedal sensor?

Project Deliverables:

Hardware and software prototypes.

Report with analysis of results.

Supervisor at swugo: Dr. ir. Jodi Kooijman (<https://www.linkedin.com/in/jodikooijman>)

About swugo:

swugo is a Dutch technology startup democratizing access to light electric mobility, a key enabler to the vibrant, livable cities of the future. Founded in 2020 by two technology veterans, we have already received a prestigious startup(s) grant from the EU Institute of Innovation & Technology (EIT) for Urban Mobility and Funding from Europe's leading startup accelerator.