MSc-project

Integration of longitudinal *Continuous Glucose Monitoring* data with matched smart-phone Images of dietary intake

Introduction:
Technology has made it possible to obtain longitudinal data via so called Wearable and Implantable Technology (WIT). This gives a unique possibility to monitor *everyday life,* and gives rise to the characterization of patient phenotypes.

Objective and Description:
This project is going to focus on variation in Continues Glucose Monitoring data. Fluctuation in metabolic activity, and there by blood glucose level, is vastly determined by the intake of nutrients. Matched with the CGM data, the dietary intake is recorded as smartphone images. The aim for this project is to develop an algorithm, that take images of meals, and then spits out its composition, and further to relate those to variation in CGM levels.

Data is from the COPSAC2000 cohort (www.copsac.com) consisting of 18 year old children (n = 400). COPSAC is a part of Herlev Gentofte Hospital, with physical location in Gentofte.

Max number of students: 2

Prerequisites:
Computational skills preferably in R or Matlab is required. Knowledge on Mashine learning techniques for analysis of images, such as deep learning, would be preferable.

Supervisors:
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Medicinsk signalbehandling