UNIVERSITÄT ZU LÜBECK
INSTITUTE OF MEDICAL INFORMATICS

The Institute of Medical Informatics (Director: Prof. Dr. Handels; www.imi.uni-luebeck.de) at the University of Lübeck offers a **three-year PhD scholarship** for developing new image analysis methods using machine learning for applications in the area of neuroradiology.
The position is part of the PhD programme at the Graduate School for Computing in Medicine and Life Sciences (www.gradschool.uni-luebeck.de). The scholarship is funded for 3 years with a payment of 1250€ (tax free and yearly increases of 50€) per month.

Project description:
„Learning to predict stroke outcome based on multivariate CT images“:
The treatment of acute brain strokes requires very careful decisions in a very narrow time-window. Shortly after patients are admitted to the hospital and scans have been acquired, clinicians need to decide which treatment path offers best chances of survival and avoidance of brain damage. These decisions have to be based on a multitude of 3D tomographic image data (CT perfusion maps and thermal imaging) and other clinical indicators (patient age, NIHSS, etc). Novel image processing techniques, modelling and machine learning algorithms, which are able to deal with the challenges of real clinical data, should be devised, implemented and tested during this research project. A large dataset of retrospective multispectral images of stroke patients is available for the development and training of new models. The new algorithms will be used to derive an automatic prediction of a pixel-wise map of tissue that is likely to be recovered if a certain treatment (in particular vessel recanalisation) is performed and how urgent this intervention is. The project will be carried out in close collaboration with the neuroradiology department as part of the TRAVE-Stroke project.

Requirements:
Students with a Master's degree in computer science, mathematics or engineering are invited to apply for this position. Experience with machine learning or image processing as well as programming skills are desirable.

Application:
A full application consists of: (1) a detailed CV (2) a letter of motivation (3) names and contact information (or reference letters) of two or more potential referees (4) degree certificates and grade transcripts.
Please, submit your application via email to heinrich@imi.uni-luebeck.de.

Closing date:
The application deadline is February 29, 2016. The earliest starting date is March 15, 2016.

Please contact Jun.-Prof. Dr. Mattias Heinrich (heinrich@imi.uni-luebeck.de) for further information.