About

The D-Lab is a research group within Maastricht university that focusses on applying machine learning methods to medical images to predict clinical outcomes such as survival and treatment related side-effects. The goal is to facilitate precision medicine, which entails tailoring of treatment to the individual patient. We focus on various diseases, including cancer, multiple sclerosis, Alzheimer's disease and COPD.

The position

We are looking for PhD candidates. A PhD position lasts for a period of 4 years. After your study, you will have acquired the highest academic title available and will be perfectly suited for high tier data-science positions in industry and academia. When you wish to start is negotiable, though sooner rather than later is preferred.

The candidate should have a background in (Bio)medical engineering, technical medicine, physics, machine learning, computer science, or equivalent, with an interest for quantitative imaging, Deep Learning and "Radiomics"

The project

In this project, you will extract quantitative features from (pre)clinical medical imaging data sets (PET/CT, Cone beam CT, MR, PET, tissues) to ultimately serve as imaging biomarkers to predict patient survival and other outcome measures. Your research will involve utilizing a high-throughput image characterization workflow and relating quantitative image features to outcome using a so-called "radiomics" and/or Deep Learning approach (see animation on www.radiomics.world). Predictive and prognostic models will be developed using existing and future patient cohorts from multicentric trials conducted throughout the Europe and the US. You will have access to several training courses organized within the consortium.

We are looking for a candidate who has:

- Completed a Masters (or equivalent) degree in biomedical engineering, physics, computer science, artificial intelligence, machine learning, or equivalent technical training
- Preferably experience with modelling techniques/machine learning techniques
- Preferably experience with imaging techniques (CT, MRI, PET), DICOM and image analysis
- Programming experience in Java, Python, C/C#/C++ or R

- Familiarity with object oriented programming principles
- Familiarity with relational database systems (SQL) preferred.
- Familiarity with semantic web technology (RDF, Sparql) preferred.
- Fluently in English, both writing and speaking
- Readiness to travel to Europe for longer durations
- An independent and practical personality and you are able to take initiatives.
- We are looking for a positively minded scientist motivated to learn new approaches and ready to work hard to build a scientific career. The candidate should have a sociable personality with good communication skills, a problem-solving attitude, learn fast to plan his own workload effectively and to delegate when necessary and have conceptual ability.

Further information can be found at our website (www.thedlab.info). Please send your application (CV and letter of motivation) to Dr. Arthur Jochems (a.jochems@maastrichtuniversity.nl).