The Department of Medical Informatics of the Erasmus University Medical Center and the Department of Medical Statistics and Bio-informatics of Leiden University Medical Center in The Netherlands have vacancies for

Two PhD Positions in Patient-Level Predictive Modelling

Full time: 36 hrs per week

Job description
The Department of Medical Informatics (Erasmus MC) and the Department of Medical Statistics and Bio-informatics (LUMC) are looking for two PhD students to perform cutting edge research in large-scale, patient level predictive modelling in Electronic Health Records (EHR). This research will be performed in close collaboration with the Observational Health Data Sciences and Informatics (OHDSI) program which is a multi-stakeholder, interdisciplinary collaborative to bring out the value of health data through large-scale analytics (www.ohdsi.org), and the EU sponsored ROADMAP project (www.roadmap-alzheimer.org) which develops a framework for real world evidence in Alzheimer's disease.

Responsibilities
The PhD students will be responsible for the development and application of novel methods and techniques to leverage the information contained in the EHR. Research of the first PhD student will be performed in feature selection, feature engineering methods, deep-learning, and other machine learning methods. The second PhD student will focus on more traditional learning methods such as regression analysis, and will perform model validation studies.

Work environment
The Department of Medical Informatics at Erasmus MC is specialized in using routine healthcare data. Currently the department is coordinating and collaborating in several projects that aim at building EU and global wide linkage of databases. The Department of Medical Statistics at LUMC combines expertise in medical statistics, decision sciences, molecular epidemiology, bio-informatics and data management and includes prediction research as a key research topic. The advisors for these PhD students will include Dr. Peter Rijnbeek and Prof. Johan van der Lei (Erasmus MC), and Dr David van Klaveren and Prof. Ewout Steyerberg (LUMC).

Requirements
Candidates must have a background in biomedical informatics, bioinformatics, computer science, data analytics, or (bio)statistics. Interest in data mining, machine learning, regression analysis and programming is required. The candidates must be highly motivated, willing to learn and demonstrate initiative in assigned tasks. Good written and verbal communication skills are desired for this international project.

Terms of employment
Our institutes are internationally at the forefront of medical informatics and biostatistics and offer a dynamic, challenging, and cooperative research environment. As a PhD you will have a temporary position of two years (full-time) with a possible extension to four years. The terms of employment are as defined for Dutch University Medical Centers (Scale 10, CAO UMC).

Applications:
Applications should include a curriculum vitae; a motivation for your application and a description of research interests; and a list of followed courses and grades, and be sent to d.i.m.dejong@erasmusmc.nl