Project title: Process Mining the NHS

Studentship Code: ECS2

The NHS is constantly seeking to improve its processes in order to cut costs, provide better services, and improve efficiency. Amongst the many techniques currently used to achieve this objective is Process Modelling. However, with the increasing pervasiveness of interconnected monitoring devices, it is now possible to collect activity logs, and subsequently perform Process Mining on these logs in order to elicit the ‘actual’ processes that are taking place. These elicited processes could potentially be useful in performance analysis, establishing process conformance between planned and actual processes, as well as uncovering potential areas for process improvement. Tools and techniques are needed to sift through and make sense of this data in order to make it useable by medical practitioners as well as management staff.

The research student will be equipped with a state of the art computer running data/process mining software (Matlab, SPSS, Disco), and a 1TB database of hospital records. They will work in collaboration with our partners Central and North West London NHS Foundation Trust (CNWL) to develop case studies for the exploration and application of process mining techniques. The research will be evaluated and assessed on the impact it has on existing processes. Applicants should ideally have an interest in data/process mining, and/or any of the following: statistical methods, big data, or machine learning techniques. Successful applicants will go through the University’s Doctoral Researcher Development Programme (DRDP), and will be members of the Centre For Resilience and the Distributed and Intelligent Systems research groups to assist them with collaboration and research dissemination. Students will have the opportunity to attend national and international meetings for dissemination of their research.

Related publications:


Informal enquiries:
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For details of how to apply:
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