Precision Imaging Beacon of Excellence

Studentship Form

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Start date	September 2018	**Duration**	3 years
Project title	**Deeper understanding of CADx for MRI**		
Project abstract	Computer aided diagnosis (CADx) using machine learning and image analysis has shown potential in recent years to assist with expert opinion. Even more recently, the advent of deep learning approaches, especially convolutional neural networks, gives such CADx systems even greater diagnostic potential. However, the challenge with such systems is acquiring, organising and labelling the complex 3D datasets. Additionally, the black-box nature of such systems can lead to a lower confidence placed in their results. A potentially promising area of CADx is to overcome attentional bias of radiological experts, a significant cause of error when a potentially significant incidental (unexpected) finding is missed. In this project then we propose to 1) Develop and use cutting-edge deep learning approaches to assist with detection of incidental findings 2) Begin to address the black-box trust issue by providing both a confidence score and insight into how a decision was made by the AI system.		
Queries	Please contact **PI-Beacon@nottingham.ac.uk**		
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