UNIVERSITÄT DUISBURG ESSEN

Open-Minded

Thesis Topic: Augmented Reality System for Neurosurgery

Universitätsmedizin Essen
Institut für KI in der Medizin (IKIM)

Short description:

Development/Evaluation of an Augmented Reality (AR) navigation module for Neurosurgery with the HoloLens 2

Goal:

The goal of this interdisciplinary project between Computer Science and Medicine is to design/evaluate an Augmented Reality (AR) navigation module to support neurosurgeons. Medical AR is an increasingly important topic in many medical fields. In short, AR enables x-ray vision to see through real world objects. In medicine, this offers pre-, intra- or post-interventional visualization of “hidden” structures. In contrast to a classical monitor view, AR applications provide visualization not only *on* but also *in* relation to the patient.

The project will be carried out in cooperation with the Department of Neurosurgery at the University Hospital in Essen, Germany.

Note: Payment possible and applications of “external” candidates are welcome!

Keywords: Augmented reality (AR), Navigation, Surgery, Image Analysis, Visualization, Computer Vison, Machine Learning, Deep Learning, AI

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