

BAW MNN Seminar October 25<sup>th</sup> 2019 @ 12:15

Media & Knowledge Sciences (MAKS) Room 414

### **A Saliency Driven Approach for Attention Re-targeting**

Dr Dylan Seychell, Department of Artificial Intelligence, ICT

With the increasing availability of high-quality cameras, the volume of visual content captured is on the rise. Moreover, the image capturing hardware on mobile devices is also improving with a wide range of devices housing a multiview camera setup. When combined with today's user experience expectations, this poses a challenge to the editing process from which users expect more efficient results in the most automated possible way. Image editing is a multistage process that spans from the choice of the object or target region in the image for editing to the actual manipulation. This talk presents a framework that efficiently allows for objects to be selected and manipulated accordingly through an explainable and automated editing process.

I will introduce a novel unsupervised and explainable approach to rank the saliency in an image that allows for automatic selection of objects. Regions in an image can be selected according to the desired rank. This approach was compared with human behaviour when choosing the most salient object in an image within experiments that involved 2254 participants. The results obtained by the algorithm matched the behaviour of 91% of the human participants. The technique also scored an F $\beta$  measure of 0.84 on the MSRA10k dataset and compares to typical saliency detection models that, unlike this technique, do not rank saliency.