European Conference on Visual Perception

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Royal Holloway Travel Award - Brief Report

I was supported by the Royal Holloway University of London Travel Award to attend the European Conference on Visual Perception in Leuven, Belgium. The meeting involves over 200 talks, 600 posters, and 15 symposia which brings together academics working across broad domains including machine vision, cognitive neuroscience, and visual aesthetics.

My PhD focuses on the risk of unknowingly disclosing personal information through eye tracking technology. Specifically, I investigate how our visual behaviour reflects particular parts of our personality and attributes. For example, do extroverts view a webpage differently from an introvert, and how is this represented in their visual behaviour?

As part of my conference attendance, I presented a talk ‘Using machine learning techniques on screen based eye tracking data to classify individual traits’. In this session, I explored how our visual behaviour upon a social media themed website allowed for pattern recognition techniques to decode whether an individual was low, or high, upon a range of personality traits. I demonstrated that, given only a minute or so of visual behaviour, a classifier could make such predictions with up to 90% accuracy. Furthermore, it appears that the most important visual signals for predicting a given trait vary, but include statistical description of the eye movements themselves and also content-seeking behaviour. Most importantly, I discussed how the community may need to focus upon informing the public to make informed privacy decisions when handing over their visual data. This finding is particularly relevant given that large commercial enterprises such as Facebook and Google are acquiring eye tracking technologies such as Eye Tribe and Google Glass, combined with the entry of many laptop systems with inbuilt eye tracking capability.