SYMPOSIUM: EYE MOVEMENTS DURING TEXT PROCESSING AND MULTILINE READING: NEW CHALLENGES AND OPPORTUNITIES FOR INSIGHTS

BENNETT LECTURE THEATRE 2 - 10:40- 11:00

Algorithms for Assigning Fixations to Lines of Text in Multiline Passage Reading

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A common problem in eye tracking research is vertical drift – the progressive displacement of fixation registrations on the vertical axis that results from a loss of calibration over time. This is esspecially problematic for experiments that involve the reading of multiline passages, where it is critical that fixations on one line of text are not erroneously recorded on another. Correction is often performed manually, but this is time-consuming and error-prone. Various methods have previously been proposed for the automated correction of vertical drift in the context of reading, but these have largely been developed in isolation with little attempt to systematically evaluate them, meaning that drift correction and line assignment techniques have been moving forward blindly. We document the major algorithms and evaluate them using both simulated and natural eye tracking data. Our results indicate that different algorithms are better suited to different types of drift phenomena, allowing us to offer evidence-based advice on algorithm selection.