Department of
Linguistics and Modern Languages
語言學及現代語言系

Using EyeLink Eye Trackers for Psycholinguistic Research

Dr. Sam HUTTON
SR Research Ltd

Workshop 4

Date: August 12, 2021 (Thursday)
Time: 2:30pm - 4:00pm
Venue: *Seminar will be conduced via ZOOM

Join the Zoom Meeting

Abstract

Language Researchers have used eye tracking to inform their understanding of how people read and process language for decades, and psycholinguists have long been pioneers in the development of eye tracking technology, methodology, and techniques for analysing eye movement data. This presentation will describe the dominant eye tracking paradigms used by researchers studying both reading behavior and spoken language comprehension. Focusing on SR Research hardware and software, the presentation will cover the key concepts involved in implementing and analyzing reading tasks, including advanced "gaze-contingent" tasks such as the moving window/mask and boundary-crossing paradigms. The dominant eye tracking paradigm in language comprehension research is referred to as the “Visual World Task” and involves presenting participants with images that they view whilst listening to sentences. The pattern of gaze over time can provide important clues as to how the spoken language is being parsed in real time. The presentation will describe a range of Visual World tasks, and how the resulting "time series" data can be analyzed and interpreted. Another important trend in eye tracking research is the integration of gaze data with other biometric recordings, such as EEG. A range of synchronization and integration approaches will be discussed, along with recent important developments such as "fixation related potentials". The 60 minute presentation will be followed by a 30 minute Question and Answer session.

Speaker

Dr. Hutton studied Experimental Psychology at the University of Sussex, UK. His first encounter with an eye tracker was during his post-doctoral fellowship at Imperial College School of Medicine. He was based in the Neuro-ophthalmology unit for 6 years, and learned to use an ancient infrared eye tracking system to measure basic oculomotor function (prosaccades / antisaccades / smooth pursuit etc.) in patients with neuropsychiatric and neurological disorders. This experience led to a lifelong interest in oculomotor function and its relationship with cognition, and Dr. Hutton has been actively involved in eye tracking research in one way or another ever since. He has published over 50 papers on a wide range of topics - from the effects of nicotine on smooth pursuit, to the impact of implicit causes and consequences on gaze during spoken language processing. He currently works with SR Research, supporting EyeLink users across the world in a variety of ways. He takes a particular interest in issues involving eye tracking in clinical settings language research and pupillometry. He regularly teaches eye-tracking workshops on a wide range of topics, in which he tries to make sure that researchers don't make the same mistakes he did.

All are Welcome

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