# Expression Recognition Glasses for Autism
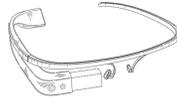
Individuals with Autism are well known to struggle to understand social interactions, make eye contact, or recognize facial expressions.

Gaining these skills is often a painful learning process for the affected people and their families, requiring countless sessions of behavioral therapy. While computer assisted in-place treatment systems have been studied for years, little work has been done to bring the learning process away from the flashcards and into the daily life of people with ASD.
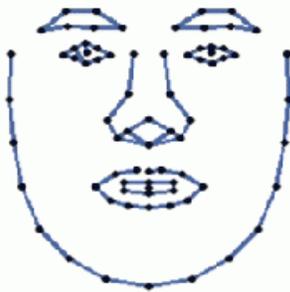
We are building a system on top of Google Glass to help people with ASD understand social cues and aid the treatment process of behavioral therapy.

Using Glass's sensors including the camera, head motion tracking, a microphone, and custom-made add-ons, such as an infrared camera for eye tracking, our software analyzes social interactions of the wearer with other people. The system then gives social cues in real time, for example about facial expressions (i.e. "happy," "interested," etc. shown on Glass's heads-up display) and records social responses to analyze them later in behavioral therapy, including the amount and type of eye contact made.
This brings behavioral therapy out of the clinician's office and into natural settings.

Team: Dr. Dennis Wall*, Dr. Terry Winograd, Dr. Carl Feinstein, Dr. Nick Haber*,
Azar Fazel, Serena Tanaka, Jena Daniels, Catalin Voss*
(*= presenting)

Stanford
MEDICINE