FACULTY MENTOR
Eric Granholm

PROJECT TITLE
Automated voice recognition therapy and symptom ratings in schizophrenia

PROJECT DESCRIPTION
Record a patient with schizophrenia and therapist interacting and rate the quality of the therapy and detect symptoms using voice recognition and machine learning applications. Training therapists is difficult but made easier by immediate feedback about the quality of their therapy, which can be accomplished through smartphone apps that recognize speech content and rate key elements of the therapy. Similarly, the content of the patient's speech can be rated for thought disorder symptoms.

INTERNS NEEDED
2-4 any level with appropriate ML and voice recognition/lexicon skills

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Eric Granholm

PROJECT TITLE
Smartphone pupil dilation measurement to detect Alzheimer's disease

PROJECT DESCRIPTION
Use the smartphone camera to detect and measure the pupil's diameter and record this while people do memory tasks, like remembering a list of digits. Greater pupil dilation indicates greater cognitive effort to remember (greater brain activation), and older people who have to try harder to remember are more at risk for Alzheimer's disease.

INTERNS NEEDED
2-4 any level with appropriate skills