

FACULTY MENTOR

Cosman, Pamela

PROJECT TITLE

Eye-tracking for quantifying reading behavior

PROJECT DESCRIPTION

This project uses eye-tracking glasses, computer vision, and signal processing techniques to study where children look when they read. By segmenting a page into areas of figures, captions, and text boxes, and tracking a person's gaze, we hope to learn various things, such as when children are skimming or reading in depth, when they get stuck on a word, and when a page layout is confusing. This work can be part of a reading assessment and training system.

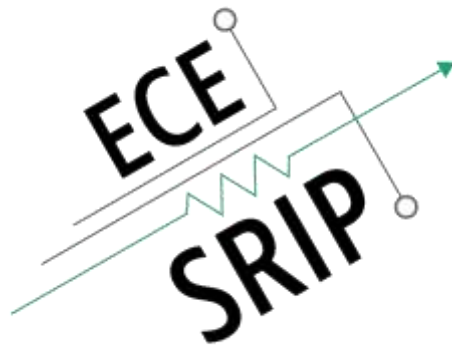
This project can accommodate both remote and in-person students

INTERNS NEEDED

2

PREREQUISITES

Knowledge of machine learning and/or image & signal processing



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PROJECT TITLE

Using mobile devices and computer vision to aid physical therapy

PROJECT DESCRIPTION

Recently there has been progress in estimating human body pose from a single RGB camera. This project aims to use cell phone cameras to estimate hand or body pose to aid in physical therapy. For example, determining hand pose can allow a system to tell whether hand exercises (often involving squeezing a sponge of particular resistance), are being done correctly.

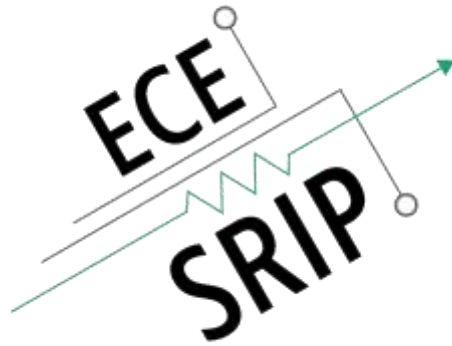
This project can accommodate both remote and in-person students

INTERNS NEEDED

2

PREREQUISITES

Machine learning



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PROJECT TITLE

Point cloud compression

PROJECT DESCRIPTION

Point clouds are one of the main representations of 3D video content, and point cloud compression is an active research area. This project aims to improve point cloud compression through the use of long-term reference frames, in which content is available from the past to enable more accurate motion compensated prediction.

This project can accommodate both remote and in-person students

INTERNS NEEDED

2

PREREQUISITES

Good programming skills, some knowledge of image/video compression or background in image/video processing