FACULTY MENTOR

Pamela Cosman

PROJECT TITLE

Compression of Dynamic 3D Human Mesh Data

PROJECT DESCRIPTION

Dynamic 3D human mesh data is challenging to compress, especially when the topology of the mesh changes over time. Our compression system uses embedded deformation and compression of deformation parameters (rotation and translation). This project will involve both using machine learning to improve the current compression approach, and carrying out human subjective quality experiments to guide the creation of a computational metric for dynamic mesh quality.

This project can accommodate both remote and in-person students.

INTERNS NEEDED

- 2 (with at least one in-person)

PREREQUISITES

- Machine learning is needed.
- Coursework in optimization and/or compression would be helpful but not required.

FACULTY MENTOR
Pamela Cosman

PROJECT TITLE
Analysis of Visual Attention

PROJECT DESCRIPTION
This study aims to analyze and compare visual attention in the context of both machine vision and human vision. Using eye-tracking glasses, we plan to study the impact of using human-guided attention for downstream computer vision tasks like image compression and image captioning.

This project can accommodate both remote and in-person students.

INTERNS NEEDED
- 2

PREREQUISITES
- Machine learning is needed.