



Defense of a Master's Thesis

**Multimodal Emotion Recognition using 3D Facial Landmarks, Action Units,
and Physiological Data**

by

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for the MSCS degree in Computer Science and Engineering

To fully understand the complexities of human emotion, the integration of multiple physical features from different modalities can be advantageous. Considering this, we present an approach to emotion recognition using hand-crafted features that consist of 3D facial data, action units, and physiological data. We analyze each modality independently, as well as the combination of each for recognizing human emotion. This analysis includes the use of principal component analysis to determine which dimensions of the feature vector are most important for emotion recognition. We show that our proposed features can be used to accurately recognize emotion and that our proposed approach outperforms the current state of the art on the BP4D+ dataset, across multiple modalities.

Friday, October 11, 2019

11:00 AM

ENB 337

THE PUBLIC IS INVITED

Examining Committee:

Major Professor: Shaun Canavan, Ph.D.

Committee: Paul Rosen, Ph.D.

Tempestt Neal, Ph.D.

Robert Bishop, Ph.D.
Dean,
College of Engineering

Dwayne Smith, Ph.D.
Senior Vice-Provost & Dean,
Office of Graduate Studies

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