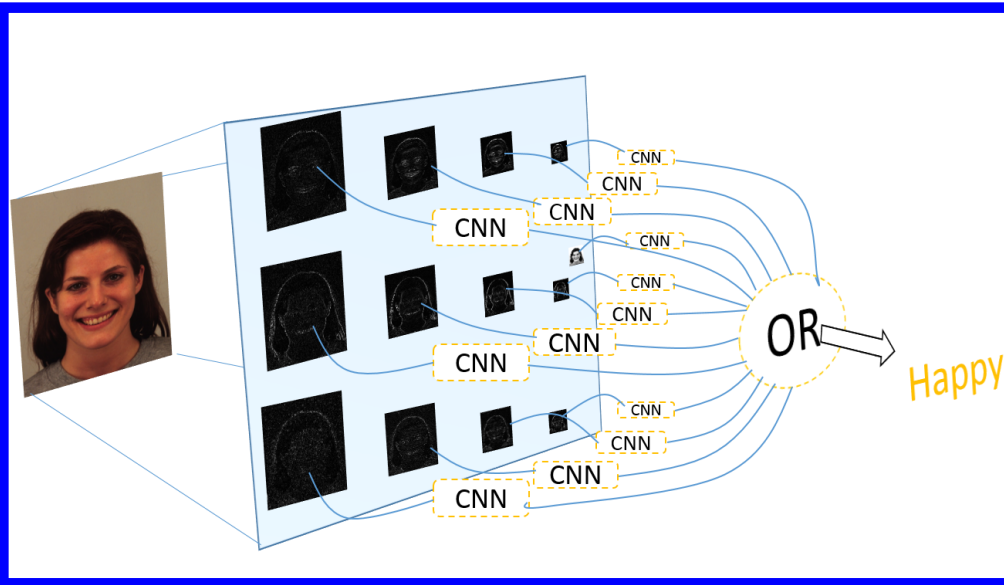# Travis Williams

Department: *Electrical & Computer Engineering*
Title: *"Advanced Image Classification using Deep Neural Networks"*
Major Professor: *Dr. Robert Li*

RESEARCH QUESTIONS / PROBLEMS:

- Adapting and modeling deep neural networks to increase image classification accuracy while reducing computational cost.

METHODS:

- Preprocessing images into high multiresolution wavelet representations and performing deep neural networks on them is proposed

RESULTS / FINDINGS:

- By redefining the spatial images into their wavelet counterparts, we achieve higher classification accuracies, and reduce computational costs in most instances.

SIGNIFICANCE / IMPLICATIONS:

- Higher accuracy of image classes
- Reduction of computational costs
- Proves usefulness of wavelets in image classification
- Proves strength of fusion of multiple networks and concepts