Sea Turtle Image Recognition Using Deep Learning

Jennifer Lopez, REU Student, Brown University
Faculty Advisor: Dr. Sule Ozev
SenSIP Center, School of ECEE, Arizona State University

ABSTRACT

- Deep learning and convolutional neural networks make image recognition possible
- A set of images train a model by extracting common features
- The model is used to classify new images

MOTIVATION

- Hundreds of thousands of sea turtles are killed by fishing gear every year
- Small scale net fisheries have high bycatch rates
- Few bycatch solutions are available to small scale fishermen
- Acoustic and light stimuli have been shown to reduce bycatch

PROBLEM STATEMENT

- Develop a sea turtle recognition model using caffe
- Optimize the network to recognize images with variations in resolution, light exposure, and noise
- Mimic fluctuating environmental conditions

EXPERIMENTAL METHODS:

Sea Turtle Recognition Model Using Alexnet:

- Convolutional + Pooling Layers
- Fully Connected Layers
- Optimized Model:

- Training set: 237 images
- Testing set: 44 images

PRELIMINARY RESULTS

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REFERENCES


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