THE iFAD PROJECT

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Hello my name is Saira Barlas and my supervisor is Brian Stone in DCU.

I am interning for the project Fish identification from underwater video and photographs and this is my presentation.

1.

This project can be described in one word: BRUTAL.

Brutal because of climate change. Brutal because of global warming. Brutal because of overfishing.

All these changes have led marine life to either be depleted or they have started appearing in places which do not suit their habitual needs.

As it states, without fish we have nothing.

This is a very serious issue which many people are not familiar with and hopefully the project I am working on helps in creating awareness in the future.

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2.

The primary project involves building a Fish Aggregating Device called FAD. FAD will mostly be constructed with cameras.

The main application would be to photograph the marine life that visit the FAD and then process the images and identify the different animals in the photos.

All of this will be done by the FAD alone.

Well lucky for me, I am working with sharks.

My part in this hefty project is to currently build a software prototype which will comprise of a game for 2 players.

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3.

Each player will be shown a shark image.

Their task is to draw a box around the shark in the image and tag it with the species they think the shark belongs to.

They will have a shark guide in their disposal which they can address in indentifying the different sharks in the images.

I also hope to implement a point system so the game can be more competitive and rewarding for the players.

All the tagged images would eventually be considered a learning source for the FAD in getting familiar with the different species of sharks.

Ultimately working on this prototype has taught me a lot. Before this, I never knew bootstrap existed and I had no idea what Node.js was.

This also helped me be more confident with my skills and of course, to get acquainted with sharks and that Sharknado does not do them justice.

Thank you.

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iFAD definition - iPAD - buoy acting as a FAD

Sensor platform

One sensor is camera (temp, salinity etc)

LOTS OF images taken by it, in hundreds if thousands.

Stored in image DB > computer vision and recognition system

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Need tagged. How? > too many and they would take so many years.

We make a game.

Kids and adult can play

Now as we have them tagged

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Put them in the FAD which has a deep learning algorithm

Biomass and Alarms

FAD can identify these specific type of sharks