Aussie Capture (Microsoft Team 11)

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Who We Are

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- **Major**: Software Engineering | **Minor**: CRJU
- **Curiosity**: Autonomous Vehicles, Biomedical Prosthetics, Cybersecurity
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- **Major**: Computer Science | **Concentration**: AI
- **Curiosity**: Algorithm Analysis (Big O), Artificial Intelligence, Machine Learning
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Aussie Capture - Concept & Idea

The concept for our project began after seeing an article referencing the wildfires that had been raging throughout parts of Australia. We saw how the fires devastated much of the landscape and how they affected the habitats of the animals that live there.

We believe that our project idea will not only help animals but also firefighters and rescuers alike. Not only could this project be used to save animal lives in Australia - it could be used to save the lives of animals anywhere!

Image Upload

What is it?

Simple image uploader built primarily in HTML/JavaScript to get user uploaded images into our system.

What it does:

Routes the image from the web frontend into the Azure ML backend and then puts image through an initial processing.

Azure Machine Learning

What is it?

Microsoft service for developing Machine Learning AI and bots.

What it does:

Bot collects and processes data from the uploaded image and compares it to stored images to determine animals in photograph. Begins vectorization process.

SPTAG (ANN)

What is it?

Deep learning algorithm designed to implement Microsoft Bing's search queries to optimize the search engine using vector data

What it does:

Turns search data in any form into vectors in order to be compared mathematically to similar forms of data that can then be returned from vectors of similar numerical value

ASP.NET Core

What is it?

C# based web framework for both simplistic and complex projects.

What it does:

Helps with processing images and displays desired information in a digestible format for the user.

Aussie Capture - Workflow

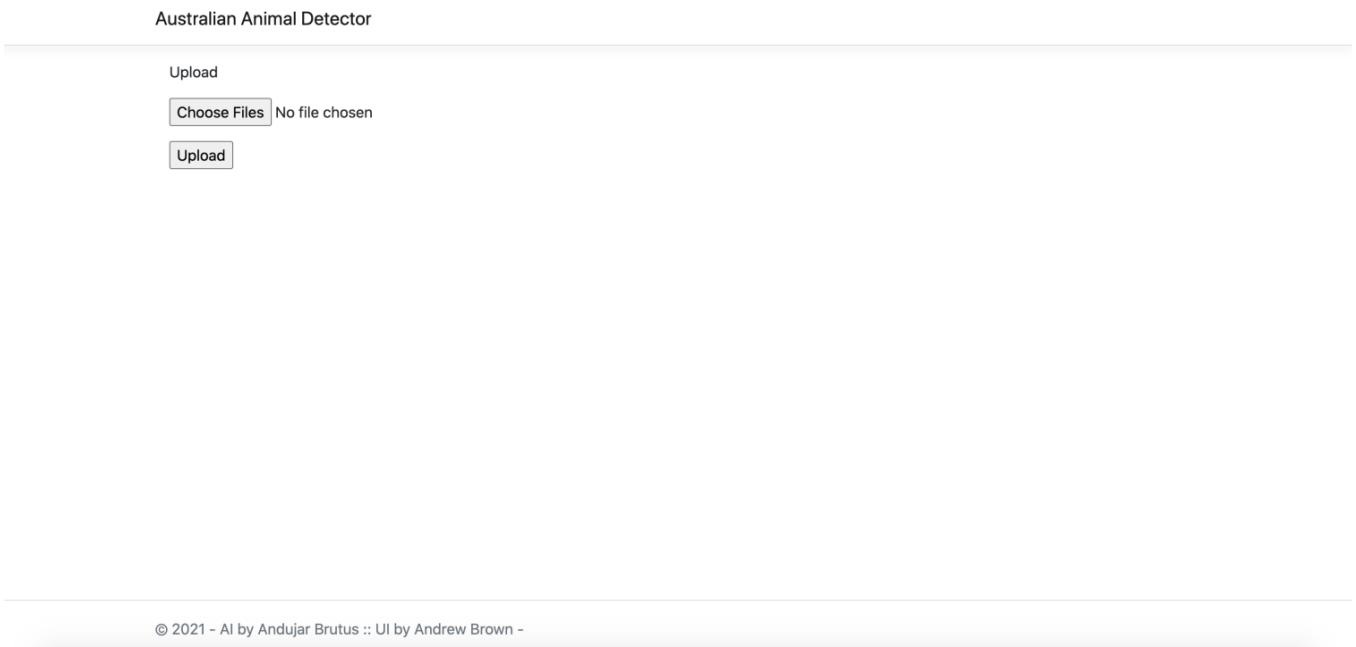
User Image Upload
User uploads an image and it is saved in our system

Microsoft Azure ML
Our bot(s) process the image and compare it to a picture database to determine the animal

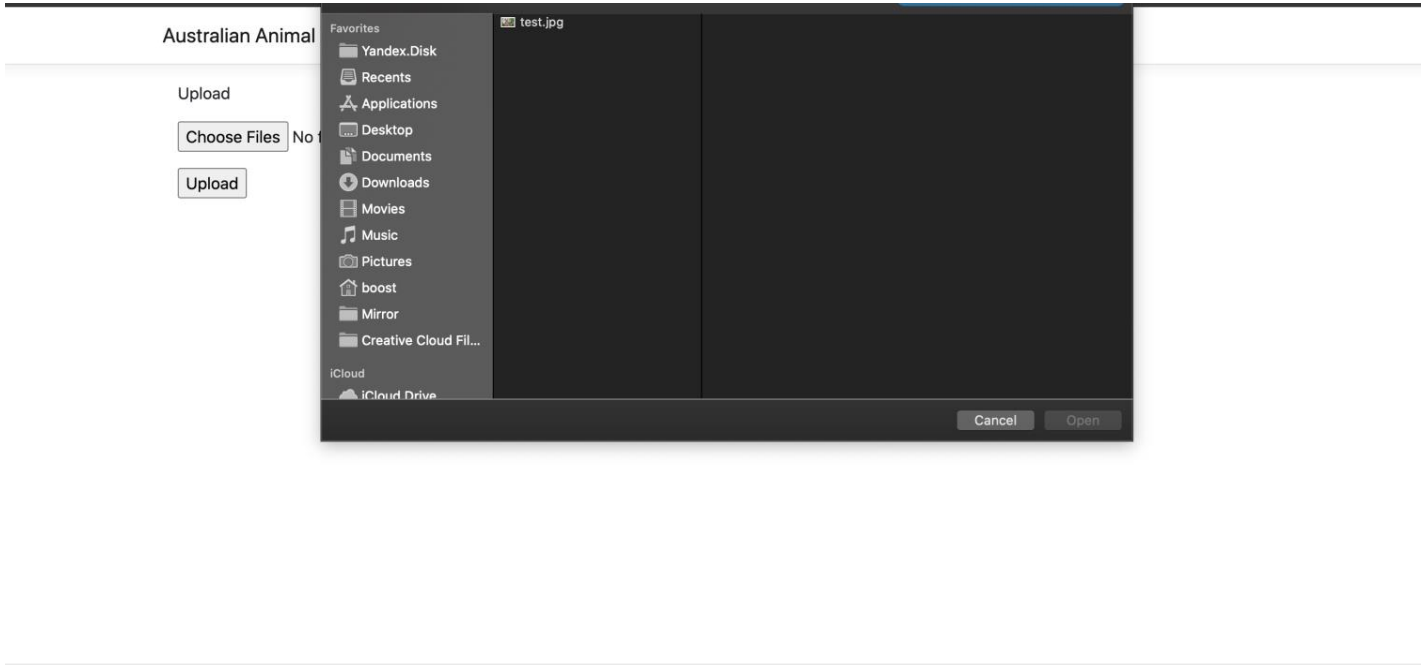
SPTAG (Space Partition Tree & Graph)
Provides further analysis through vector mapping and helps clear confusion our bots may have

ASP.NET Core
Web framework that provides the data to the user in a meaningful way

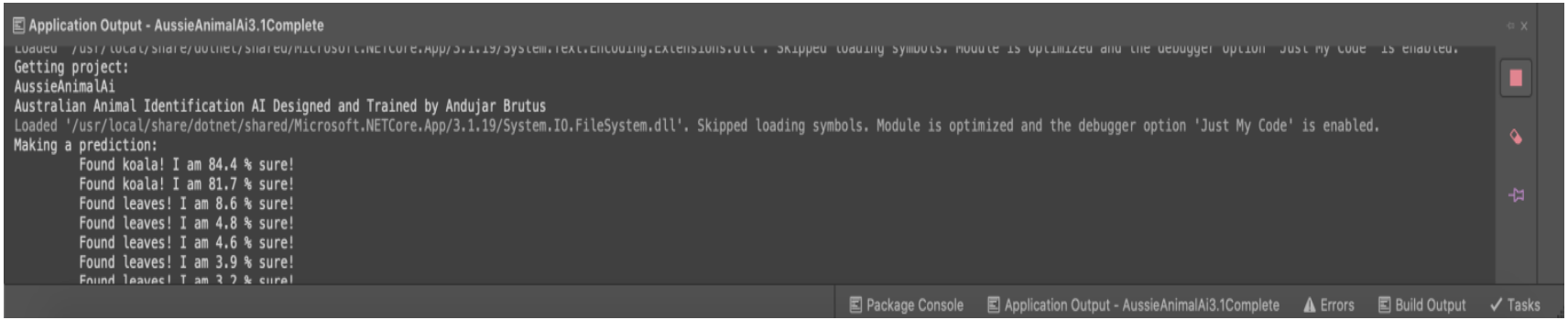
Aussie Capture – Screenshots



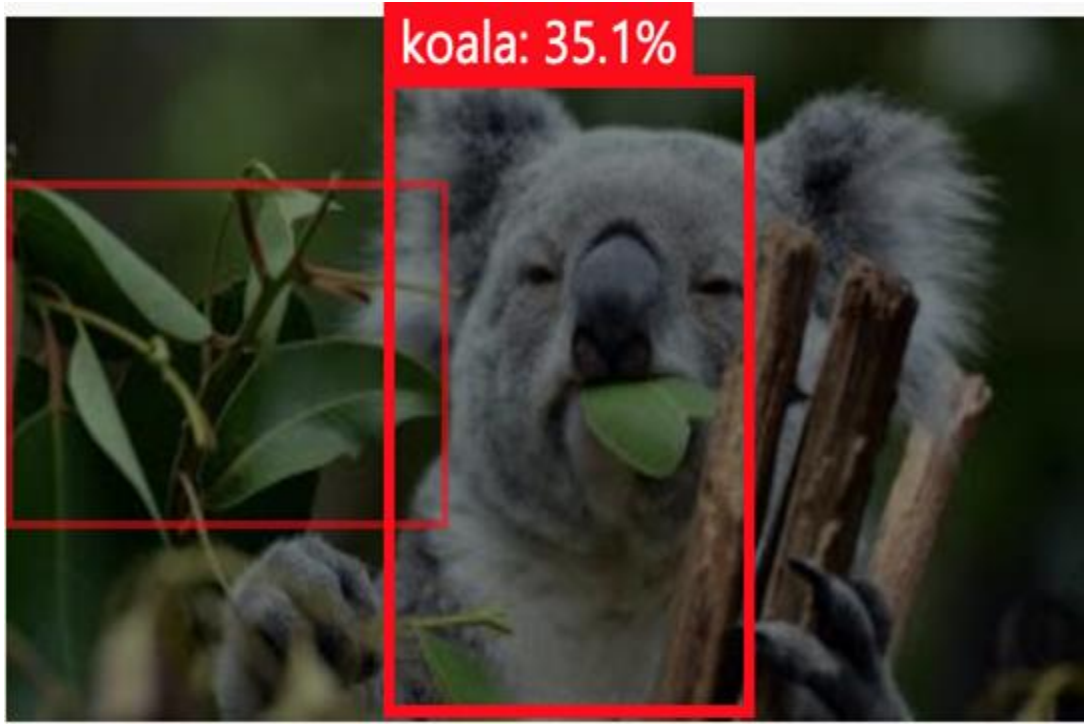
Aussie Capture – Screenshots

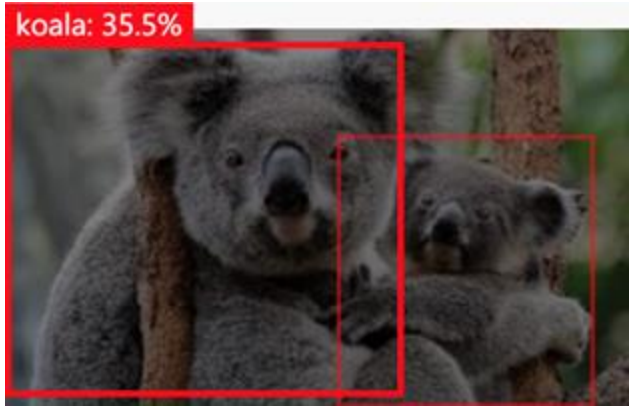


Aussie Capture – Ideal Results



Aussie Capture – Output





Q&A

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