Visual Analytics of the Impacts of Climate Change on Migratory Bird Habitats

Technical Document

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June 2024

Contents

1 Introduction

Our Senior Capstone project is comprised of two components:

1. A species distribution model (SDM) capable of predicting how climate change will affect future bird habitats up to year 2100
2. A web-app that visualizes SDM output and displays other relevant information such as bird migration patterns and climate trends.

This technical document will overview how each of these components work, as well as the required data and file structure for them to operate correctly.

2 Species Distribution Model

2.1 R Processing

Libraries

TODO

Input

TODO

Output

TODO

Process

TODO

2.2 Model Training

Libraries

TODO

Input

TODO

Output

TODO

Process

TODO

2.3 Model Prediction

Libraries

TODO

Input

TODO

Output

TODO

Process

TODO

3 Web Application

3.1 APIs

React

TODO

FastAPI

TODO

RestFUL

TODO

Leaflet

TODO

3.2 Usage

Insight into how the website should be used

3.3 Design

Insight into how the website was designed