digitization
ACADEMY

AI in Biodiversity Collections

Overview

This free, online course is focused on emerging developments at the intersection of artificial intelligence and biodiversity collections. This course is targeted at those already associated with a biodiversity collection, such as student technicians, collections management professionals, or curators. The course will be relevant to a diversity of collection types. Participants do not need to have prior knowledge of AI models or tools.

Learning Objectives

The aims of the course are to empower participants with the knowledge and skills to do the following:

1. Explain what AI is, how it works, and how it might be relevant to a biodiversity collection.
2. Identify current AI-powered tools and approaches available to biodiversity collections and explain how each connects to the AI subfields and methods that power it.
3. Investigate the capabilities of current AI models by interacting with models directly, and explain how these capabilities serve as building blocks for relevant tools and approaches.
4. Evaluate AI-powered tools and approaches for fitness in biodiversity collections by applying such criteria as accuracy, cost, scalability, privacy, and integration complexity to a real or realistic scenario.
5. Articulate an informed position on responsible use of AI in biodiversity collections.
6. Develop a strategy to navigate AI developments that impact biodiversity collections.

Class Format & Homework

This course is a fast-moving mix of synchronous presentation and discussion and asynchronous work either alone or in small groups. In general, each block will begin with time for questions about the asynchronous activity and/or readings from the block prior, followed by a presentation of new content and activities related to the new content.

Schedule & Topics

The schedule below provides a high-level overview of course content. Topics will be updated with links to their corresponding slide decks as available. Links to recordings of each block will be posted after the conclusion of the block.

	Synchronous	Asynchronous
Block 1	Introduction to AI: subfields and methods Historical overview of AI in biology	**Activity 1:** AI Subfields and Methods **Readings:** TBA
Block 2	How AI models work	**Readings:** TBA
Block 3	AI tools and approaches to textual data	**Activity 2:** AI-Powered Transcription Tools **Readings:** TBA
Block 4	AI tools and approaches to audio and visual media	**Readings:** TBA
Block 5	Live discussion/Q&A with panel of researchers	**Activity 3:** AI Models in Biodiversity **Readings:** TBA
Block 6	Connecting models to data and tools	**Readings:** TBA
Block 7	Evaluating responsible use of AI	**Activity 4:** Evaluating the Application of AI in a Biodiversity Collection **Readings:** TBA
Block 8	Navigating an evolving field Presentations and discussion	

Meeting Time & Place

The course will occur via Zoom.

Content & Communication

Access to and management of the course's digital content will be accomplished via Google Drive. Communication outside of the synchronous Zoom sessions will be via email.

Materials Needed

Participants will need to access Zoom and Google Drive as part of this course.

Code of Conduct

All participants are expected to abide by iDigBio's Code of Conduct and Community Code of Conduct: https://www.idigbio.org/content/idigbio-code-conduct

Recording Policy

Each class will be recorded and posted for later asynchronous viewing. Zoom recordings are available exclusively to participants and not to be shared publicly.

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