GeoAI – Capabilities Overview
What is GeoAI and what can it do for you?
Before we get started, let’s get on the same page.
ArcGIS is a comprehensive system for spatial data science
ArcGIS Is an Integrated Enterprise System

Many Implementation Patterns all Supporting GeoAI

Supporting Multiple Experiences

Desktop (Pro)

Cloud

SaaS (Online)

Mobile Apps

Web Apps

Leveraging Web Services Architecture

Enabling Geospatial Infrastructure

Servers (Enterprise)

Easily Integrated with Other Enterprise IT Systems
AI, Machine Learning & Deep Learning
Embedding GeoAI Across the ArcGIS System

New & Improved
- Pretrained Models (60+)
- Motion Imagery Tools
- Tools for Spatial Machine Learning
- Spatiotemporal Forecasting
- GeoAI Toolbox (Pro)

Ready-to-Use Tools & Models
- Presence-Only Prediction
- Time-Series Forecasting
- AutoML
- Auto Detection & Tracking
- Point Cloud Classification
- Object Detection in Oriented Imagery
- Land Cover Classification
- Improved Pixel Classification (TTA)

Text
- Entity Extraction

Imagery & Remote Sensing
- Vector & Tabular
- Imagery & Remote Sensing

Open Science Libraries
- Timm
- PyTorch
- fast.ai
- XGBoost

... Automating, Processing & Accelerating Intelligent Decision-Making
Generating Spatial Data

Pretrained models

• Over 60+ pretrained models
  - Eliminate the need to develop and train models
  - Retrainable to your geography and imagery
  - Available as part of the ArcGIS Living Atlas

• Types of models
  - Image feature extraction and detection
  - Point cloud classification
  - Object tracking
  - Pixel classification
  - Image redaction
Pretrained models – A tour
Living Atlas – review new models
ArcGIS Pro a GeoAI enabled environment
Image classification & feature extraction
Image Analyst

Extracting Information From Imagery
Deep Learning in ArcGIS
ArcGIS Provides an end-to-end deep learning solution

ArcGIS provides an end-to-end deep learning workflow
A Rohingya Refugee Camp Analysis

Ensure availability and sustainable management of water and sanitation for all
Predictive Analytics

Prepare Data, Make Predictions, Find Correlations, Understand Top Variables, and more

Predicting Asthma Rates
Predicting House Pricing
Predicting Sea Habitat
Time Series Forecasting

Data Engineering
Variable Importance
Variable Correlation
ArcGIS Pro: An Overview
Deep Learning Studio

Bring the entire deep learning workflow into a focused environment

Project-based Workflows

- Prepare Training Data
- Train Model
- Run Inferencing

ArcGIS Enterprise + ArcGIS Image Server

- Multiuser workflows
- Small to large projects
- Project management

Deep Learning Studio

- Intuitive web application
- End-to-end deep learning pipeline
- Collaborative training data collection
- First release – ArcGIS Enterprise 11

Simplify and streamline AI Workflows