

# Translational AI Center (TrAC) Training Spring 2022

## Introduction to Cloud-based Deep Learning April 9 from 10:00 AM to 6:00 PM (US Central Time)

### About This Workshop:

The Translational AI Center at Iowa State University along with CyVerse.org will host a day long hybrid workshop on **Introduction to Cloud-based Deep Learning**. This workshop will introduce you to concepts in cloud, containerization, and GPU computing with Python. We will demonstrate a simple deep learning application problem using public research cyberinfrastructure with version control systems and containerization.

The workshop is split into two parts:

### Part I

- Introduction to CyVerse cyberinfrastructure **(1.5hrs)**
  - iRODS Data Store
  - Discovery Environment data science workbench
  - JetStream-2 OpenStack Cloud
  - Containers with Docker and Kubernetes
- Introduction to Deep Learning with Project Jupyter **(1.5hrs)**
  - Data Management (15 mins)
  - Data Analysis (15 mins)
  - Concepts in training with a predefined standard network architecture (30 mins)
  - Performing model inference (15 mins)
  - Version control and Reproducibility (15 mins)

### Part II

- Introduction to GPU computing **(20 mins)**
- Setting up your analysis environment for programming in Python
  - on Google Colab **(15 mins)**
  - on Windows **(20 mins)**
  - on Linux **(20 mins)**
  - on HPC **(30 mins)**

**Prerequisites:** Basic understanding of the command line and at least one scientific programming language

**Registration:** The registration is free, please fill out this form: <https://forms.gle/dPcpvokVduM5HJGW7>

This workshop is brought to you by:

The logo for Jetstream2, featuring the word "Jetstream2" in a stylized, italicized font with a red underline that swooshes under the text.The logo for Iowa State University, featuring the text "IOWA STATE UNIVERSITY" in red capital letters.