UTEP Machine-Learning Miniseries
Leveraging the Texas Advanced Computing Center

R&I, the Applied AI Innovation Institute (AAII) and the Texas Advanced Computing Center (TACC) Life Sciences Group invite research faculty and students to unlock the power of Machine Learning using cutting-edge High Performance Computing infrastructure from TACC.

Who Should Attend

- Faculty and graduate students conducting research who are eager to enhance their work using Machine Learning (ML) models and High-Performance Computing (HPC) resources.

What You Will Learn

- How to request access to supercomputing resources at TACC.
- Hands-on guidance for programming in Python, with a focus on Machine Learning applications.
- Core concepts and advanced techniques in both traditional and modern Machine Learning.
- How to harness GPU power using TACC's AI-optimized system: the **Vista Supercomputer**.

Workshop Schedule

Session 1: TACC Overview and Python Essentials
Get started with how to submit a proposal for use of TACC infrastructure. Overview of hardware architecture and introduction to the Python programming language.

FRIDAY, OCTOBER 24, 2025 | 9:00 AM - 12:00 PM

Session 2: Introduction to AI, ML and Supervised Learning
Understand foundational concepts and vocabulary used in AI and Machine Learning Models. Dive into core algorithms in supervised learning. Hands-on model training, testing and evaluation.

FRIDAY, OCTOBER 31, 2025 | 9:00 AM - 12:00 PM

Session 3: Unsupervised Learning and Deep Learning
Learn essential data preparation techniques and perform dimensionality reduction. Gain hands-on experience with different clustering algorithms along with their key evaluation metrics. Explore the architecture of neural networks and deep learning workflows

FRIDAY, NOVEMBER 7, 2025 | 9:00 AM - 12:00 PM

Session 4: CNNs and Using GPUs on TACC
Implement Convolutional Neural Networks (CNNs) from start to finish leveraging GPU processing.

FRIDAY, NOVEMBER 14, 2025 | 9:00 AM - 12:00 PM

Registration

Reserve your spot by scanning the QR code. Space is limited, and registration is required to receive a TACC account, session materials and location details. A laptop is required for hands-on activities. Lunch will be provided at the end of each session.

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