Biomedical Data Science Online Training Program*

A year-long program of online sessions introducing computational Data Science in the biomedical domain incorporating principles for FAIR data management, algorithmic fairness, privacy, and regulatory compliance.

PROGRAM CURRICULUM

Preparation (recorded):

▶ **Session 1: R and Statistics Tutorials**
Instructors: M. Hielsberg & J. Tao

▶ **Session 2: Manipulating Big(ish) Data in Excel, and Reading into R**
Instructors: F. Wright, C. Brinkmeyer-Langford, & D. Lloyd

▶ **Session 3: Manipulating and Displaying Big(ish) Data in R**
Instructors: F. Wright, B. Beykal, & A. Dickey

Statistical Learning:

▶ **Session 4: Statistical Learning—Regression**
Instructor: S. Dasgupta | **Thu., Nov. 18, 2021** • 1–3 p.m. CT

▶ **Session 5: Statistical Learning—Classification**
Instructor: S. Dasgupta | **Thu., Dec. 16, 2021** • 1–3 p.m. CT

▶ **Session 6: Statistical Learning—Clustering**
Instructor: S. Dasgupta | **Thu., Jan. 20, 2022** • 1–3 p.m. CT

▶ **Session 7: Statistical Learning—Dimension Reduction**
Instructor: S. Dasgupta | **Thu., Feb. 17, 2022** • 1–3 p.m. CT

Data Management and Policy:

▶ **Session 8: Fundamentals of FAIR Research Data**
Instructors: L. Sare, D. Tabor, & J. Watts | **Wed., March 9, 2022** • 1–3 p.m. CT

▶ **Session 9: FAIR in the Real World**
Instructors: L. Sare, D. Tabor, & J. Watts | **Wed., April 6, 2022** • 1–3 p.m. CT

▶ **Session 10: Data Privacy and Policy**
Instructors: H. Kum & C. Schmit | **Wed., May 11, 2022** • 1–3 p.m. CT

▶ **Session 11: Algorithmic Fairness and Social Ramifications**
Instructor: T. Chaspari | **Wed., June 1, 2022** • 1–3 p.m. CT

Cloud Computing:

▶ **Session 12: Cloud Computing and Big Data Analytics**
Instructor: J. Tao | **Wed., June 29, 2022** • 1–3 p.m. CT

**Note: *A certificate of completion will be available to all participants who attend at least 6 of the 9 live sessions. The first 100 Texas A&M students enrolled full-time in any degree-granting program who attend at least 6 of the 9 live sessions will receive a $25 gift certificate at the end of the program.*

About the Program: This Texas A&M Institute of Data Science (TAMIDS) training program provides a series of online sessions concerning computation, systems, and statistical learning in Data Science in the biomedical domain.

In addition to methods, application of regression, supervised and unsupervised statistical learning, and systems for data analytics, the program covers best practices for Findable, Accessible, Interoperable, Reusable (FAIR) data management, algorithmic fairness, and data ethics, privacy preservation, confidentiality, legal and regulatory requirements, including HIPAA compliance.

The sessions will couple exposition of underlying principles with engagement of session participants through online quizzes and hands-on exercises focused on developing computational competencies using R notebooks. The program also provides self-instruction materials on the R language and statistical foundations. The instructors are faculty experts in Data Science with specialization in session topic areas.

The target participants for these sessions are PhD trainees in biomedical training programs at Texas A&M and beyond, in the second or later years of their programs.******

CONTACT
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