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TEXAS A&M UNIVERSITY
TEXAS A&M | Texas A&M Engineering Experiment Station
TEES
TEXAS A&M AgriLife RESEARCH

TEXAS A&M
Institute of Data Science

Thematic Labs: *Ecosystems for research, education & community in emerging areas of Data Science / AI / ML*

Education & Training: *Collaborative development of programs, courses, and training*

Outreach & Engagement: *Students, faculty, operations, universities, industry, and national labs*

Scientific ML Lab (Braga-Neto)
- ❑ ML-guided acceleration of large-scale simulation
- ❑ Sparse data-driven hypothesis generation
- ❑ Areas: materials, reservoirs, supernova models

Data Justice Lab (Tang)
- ❑ Themes: diversity, inclusion, ethics, social justice
- ❑ Areas: health, education, economy, environment
- ❑ Algorithmic fairness, data equity, bias reduction
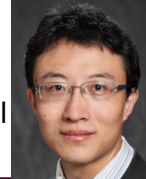

Design & Analytics for Urban AI (Ye)
- ❑ Multi-scale simulations of cities and regions
- ❑ AI-based tools for urban problem solving
- ❑ Scenarios for sustainable growth & climate action

VIVID (Visualization) Lab (McNamara)
- ❑ Data interaction via multimodal human sensing
- ❑ Nonvisual displays, AR & VR, 3D materialization
- ❑ Renderings: climate change, impacts, hazards

Digital Twin Lab (Tao)
- ❑ Synchronized representations of real systems
- ❑ Data-driven models, scenario exploration, control
- ❑ Areas: clean energy, smart farming, public safety

Workforce Development (Green)
- ❑ Professional Education Workshops
- ❑ Customization: Data Science + X
- ❑ Online credentialing program

Student Data Science (Rodriguez)
- ❑ Competitions & hackathons
- ❑ Data Science literacy ambassadors
- ❑ Diversity, inclusion & MSI engagement

For-Credit Programs (Retzer)
- ❑ Master of Science in Data Science
- ❑ UG Cert Data Analytics in Petroleum Industry
- ❑ MS in Energy / Energy Digitization Theme

Training Innovation (Narayanan)
- ❑ Minimesters for Data Science skills
- ❑ Data Science training for non-specialists
- ❑ Internship & career preparation

Operational Data Science (Pi)
- ❑ Texas A&M : a Living Lab for Data Science
- ❑ Partnerships leverage operational data assets
- ❑ Enhance: transport, facilities, research admin

Industry Engagement (Green, Rodriguez)
- ❑ Industry affiliates program
- ❑ Data Science capstone & practicum sponsorship
- ❑ Career development & technical mentorship
- ❑ Sponsorship of scholarships, events, programs
- ❑ Domain-specific research consortia

Faculty Community (Ding)
- ❑ Seminars, tutorials, workshops
- ❑ Coffee Connections
- ❑ Career initiation fellows
- ❑ Research affiliates
- ❑ Course development program

Academic Outreach (Foucart)
- ❑ Visiting researcher program
- ❑ National Labs relations
- ❑ Peer Institute relations

Research Development (Tao, Duffield)
- ❑ Bring Your Own Data Online Consultancy
- ❑ Data Science research enablement
- ❑ Strategic research partnerships