BRICCS PATHWAYS 2026

Data Science Map: Training, Courses, Competitions, and Connections

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My Background

University of South Carolina MCEC
2025 PhD Informatics – Health
Dissertation. Prisma Health
- Data modeling and analytics to advance the secondary use of real-world data in healthcare research

Certificate in Artificial Intelligence
MS Computer Science

Molinaroli College of Engineering and Computing
UNIVERSITY OF SOUTH CAROLINA

Board Certified Medical Physicist, DABR
Senior Oracle DBA data modeling, data warehousing, analytics, performance tuning, SQL
MS Physics. Dual BS Physics and Math

UNCG ECU THE UNIVERSITY OF TEXAS MD Anderson Cancer Center Making Cancer History®

Train–The–Trainer

AI Unlocked: Empowering Higher Education Through Research and Discovery
- April 2-3 2025
  - 2-day event Denver Colorado
  - Learned about ACCESS
  - Opened pathway to skills and learning not available with HPC

MONAI LangChain PyTorch amazon SageMaker Studio Lab PEGASUS

NSF ACCESS

NAIRR Pilot National Artificial Intelligence Research Resource Pilot

New Opportunities

Resources
- NVidia training over summer
- HPC resources university and commercial and not research based only ++++

Educational Resources
- OnDemand Tools for Students
- Network with professionals

Gain confidence to build curriculum
- Affirmations
- Skills &Training
- Connections
- Research and/or Education ??

Train-The-Trainer

PACES

High Performance Research Computing

- PACES Workshop Aug 11-15th
  - 4-day event Albuquerque NM
  - AI/ML tech labs on ACES
  - Python Data Science
  - Machine Learning and Computational chemistry
  - Connected with Lisa Perez @TAMU
- Created first ACCESS course on LAUNCH @TAMU for my students

Course Development

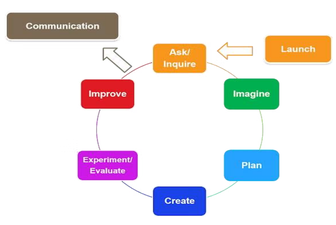
ITEC 510 EMERGING INFORMATION TECHNOLOGY TRENDS

- Introduce HPC and AI/ML to senior IIT
- Empowering IIT with Data, AI/ML, and HPC Allocation on ACCESS
- ACCESS Allocation Request CIS250775
- Fall (5/3) 8 students on LAUNCH
- SPRING 33/8 students
- SUMMER (NEW)
- Data Manipulation, Visualizations, Exploratory Data Analysis with VSC and Jupyter Lab

CI Resources ACES Launch OPEN OnDemand

UNIVERSITY OF South Carolina

SC AI Pathways



SREB SOUTH CAROLINA DEPARTMENT OF EDUCATION EQuIPD

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- Aims to introduce AI curriculum for k-16
- Align DE/DC with technical and post secondary universities
- Requires state-wide collaboration
- Multiple Courses phased in at secondary level Comp Sci
- SC RWD and Context
- Train-The-Trainer
- Design Team 12 members across the state secondary schools, technical community colleges, post secondary universities

The Citadel, Clemson University, Coastal Carolina University, Lander University, Midlands Technical Community College, and University of South Carolina

Outreach K-12

Data Analytics and AI
- Data Patterns/Simulations hands-on with data no algorithms
- Simple Decision Making Based on Data, Observations, and Patterns.
- 3 Scenarios
  - Stormy Day
  - Humid But Sunny
  - Windy But Sunny
- Oracle APEX SQL

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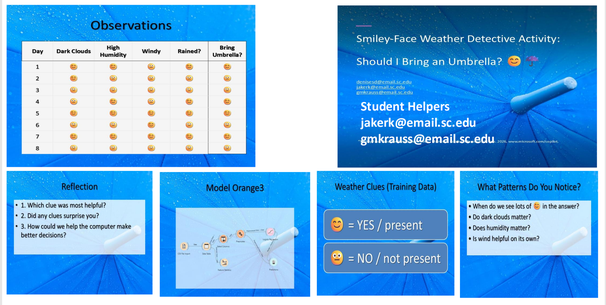

Connections

WHY ARE CONNECTIONS IMPORTANT?

For AI, data science, and real-world problem solving:

- Range multiple disciplines involved to solved problems in **REAL WORLD**
- Requires **MULTIDISCIPLINARY COLLABORATION**
- **INTEGRATE** technical expertise, domain knowledge, and strategic decision-making using **DATA**

WHO, WHAT, WHY, WHERE, WHEN?

These are the CONCEPTUAL FRAMEWORK.

Hackathons and Competitions

QUANTUM in SOUTH CAROLINA

Quantum AI/ML Hackathon V2
- 100 students
- 37 academic universities
- 3 quantum platforms
- 4 problems to solve/choose

1st place judge for SRNL

Tornado Prediction Problem
Quantum AI/ML
Designed by
larry.deschaine@srnl.doe.gov

Hackathons and Competitions

Big Data Health Science Student Case Competition

7TH NATIONAL BIG DATA HEALTH SCIENCE CONFERENCE
February 12-13, 2026
Columbia, SC

- 31 teams of grad and undergrad students
- Real-world data AI/ML problem Teams present a business solution to industry experts synchronously online Friday night thru Sunday morning
- Two Staged Problem with Round 1 Elimination.
- Judging Technical and Presentation
- Top Teams go to Round 2
- New Datasets same Problem different Scenario
- Sunday Morning Final Round
- Judge for Technical Scores
- Case Competition Planning Committee

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BIG DATA HEALTH SCIENCE STUDENT CASE COMPETITION 2026

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denisesd@sc.edu Thank you!!

- Dr. Davis is a Clinical Assistant Professor in the University of South Carolina's Molinaroli College of Engineering and Computing, in the Department of Integrated Information Technology. A member of the graduate faculty, she instructs undergraduate and graduate students focusing on data management, emerging technologies, and data science.
- Grounded in data analytics and real-world healthcare experience, Dr. Davis applies her NAIRR AI Unlocked and BRICCs experience to support and strengthen local K–20 AI/ML and quantum workforce development. March 16, 2026

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