UNT DAY OF HEALTH INFORMATICS + DATA SCIENCE PROGRAM

9:00 BREAKFAST + NETWORKING

9:50 HEALTH INFORMATICS KEYNOTE: JE'TERIUS DUIRDEN
Building Resilient Health Informatics Systems: Insights from Industry Challenges & the Power of Collaboration

11:00 BIO BREAK + NETWORKING

11:15 CONCURRENT SESSIONS

12:00 LUNCH + POSTER COMPETITION

1:15 DATA SCIENCE KEYNOTE: ANDRE MENDES
Supercomputing, Quantum Computing & AI

2:30 BIO BREAK + NETWORKING

2:45 CONCURRENT SESSIONS

3:30 CLOSING REMARKS, POSTER COMPETITION WINNERS, NETWORKING

UNT | COLLEGE OF INFORMATION Department of Information Science

DATA SCIENCE

UNIVERSITY OF NORTH TEXAS Health Informatics Student Organization To Serve you Better HISO

AI

In Collaboration With Dallas-AI.org

Morning Sessions

Panel 1 11:15 AM - 12:00 PM Room 130

HOW WILL GENERATIVE AI CHANGE DATA SCIENCE

Ram Chandra, Director of Data Science, Toyota Motor North America
Sahar Behpour, Data Science Consultant, Deloitte
Fariba Fard, Adjunct Professor, University of North Texas
Spencer O' Leary, CEO, ActiveOps

Panel 2 11:15 AM - 12:00 PM Room 206

AI IN HEALTHCARE

Mark Albert, Associate Professor, Associate Chair, UNT BioMed
Engin Kapti, Senior Director of Data Science and Machine Learning Engineering, Unite Us

UNT College of Information Graduate Academic Certificate programs are intended for professionals in Library Science, Information Science, Data Science, and other related fields who already have a bachelor's or master's degree, and want to develop or enhance their knowledge and skills in a particular area by taking graduate-level courses to receive an academic credential. The certificates can also be completed while students are pursuing a master's degree.

The Big Data and Intelligent Systems Graduate Academic Certificate prepares students to build data-driven intelligent systems. Students will take courses with an emphasis on machine learning and knowledge discovery. The Big Data and Intelligent Systems GAC is intended for Computing or Information Technology Professionals, and others in related fields who already have a bachelor's or master's degree, and want to develop or enhance their knowledge and skills in data science by taking graduate-level courses to receive an academic credential.

The Data Science Graduate Academic Certificate prepares individuals to leverage their knowledge to manipulate, organize and analyze data to help drive decision-making within organizations. The courses provide a theoretical foundation and exposure to data analytics tools and technologies through structured learning experiences. The Data Science GAC is intended for Computing or Information Technology Professionals, and others in related fields who already have a bachelor's or master's degree, and want to develop or enhance their knowledge and skills in data science by taking graduate-level courses to receive an academic credential.

The Health Information Graduate Academic Certificate prepares information professionals and librarians to deliver health information services in a variety of settings. Health information is being generated at a rapid pace due to innovations and advancements in technology. Consumers and patients are increasingly involved in their health-care decision-making, and ensuring that there is equitable access to quality health information is crucial. Healthcare providers and researchers depend upon information to improve patient care. Health information professionals and librarians need to understand how to manage health information and deliver health information services to healthcare providers, researchers, and consumers with the ultimate goal of improving patient outcomes.

The Health Data Science Graduate Academic Certificate prepares individuals to apply data science methods and techniques to health-related problems. The healthcare landscape continues to rapidly evolve as the digitization of health progresses with the advancements in technology. Health data is being generated at a pace never witnessed before; new models of health services and health information delivery continue changing; and the available technology is making healthcare more consumer-centric. All of this means that health informatics and health information professionals need to be equipped with the competencies in health data science.

https://bit.ly/COIcertificates

Panel 3 2:45 PM - 3:30 PM Room 130

THE CHALLENGE OF INTEROPERABILITY OF HEALTH DATA

Priya Parwani, Senior Analytics Consultant, Blue Cross Blue Shield of Texas
Herman Oosterwijk, President and Principal Consultant, OTConsulting, Inc
Leela Pavani Velagala, Information Science PhD Student (Cybersecurity), UNT College of Information

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Panel 4 2:45 PM - 3:30 PM Room 206

BUILDING CAREERS IN AI

Shiva Bhattarai, Manager of the Data Analytics Team, PACCAR
Urmila Ponnagandla, Senior Machine Learning Engineer, Toyota Financial Services
Jianqun Liu, Software Development Manager, Amazon

Lightning Talk 3 2:45 - 2:55 PM Room 214

AI STRATEGIES TO BRING MORE HUMANITY TO HEALTH INFORMATICS

Mark Albert, Associate Professor, Associate Chair, UNT BioMed

Statistics can help us titrate medical intervention intensity, frequency, and duration when we have a clear metrics to improve. However, movements as simple as walking have from tens to hundreds of clinically relevant parameters. I discuss our recent work funded by the Shriners Children's Hospital system that led to the creation of the Shriners Gait Index (SGI) which provides a more holistic measure of gait quality than current gait measures. This is also a teaser talk for a constellation of strategies also through funded collaborations with Lurie Children's Hospital, UNT Health Science Center, the Shirley Ryan AbilityLab, and Northwestern Feinberg School of Medicine where we create summary metrics and reduced data representations using deep autoencoders and supervised, fine-tuned embeddings to bring disparate data together, improve clinical relevance and interpretability, and stabilize scores in a world full of messy comorbidities. This and similar approaches help us tame our vastly increasing array of AI tools and new measures to bring us closer to the elusive "quality of life" measure(s) and gut-level understanding of patient health clinicians have been implicitly focusing on and hoping AI and health informatics can deliver.

Lightning Talk 4 3:00 PM - 3:10 PM Room 214

AI TO DATA OR DATA TO AI: THE MAINFRAME'S ROLE IN REAL-TIME AI WORKLOADS

Venkat Balabhadrapatrunin, Distinguished Engineer, Mainframe Software, Broadcom

In today's data-driven world, the challenge of efficiently processing and analyzing vast amounts of data has never been more critical. Mainframes, with their unparalleled reliability, scalability, and security, have long been the backbone of enterprise computing. However, as artificial intelligence (AI) continues to revolutionize industries, the debate arises: should AI be brought to the data, or should data be moved to AI? This talk explores the strategic advantages of leveraging mainframes as the optimal platform for running real-time AI workloads to solve the real world problems. We will delve into the significant benefits of integrating AI capabilities directly within the mainframe environment, where the data inherently resides. By doing so, organizations can minimize latency, enhance data security, and maximize computational efficiency.

UNT COLLEGE OF INFORMATION STUDENT POSTER FINALISTS

DATA SCIENCE

Kevin Gautier, Anirban Saha Anik, Sriram Kandadai, Xiaoying Song, Lingzi Hong
Enhancing Health Communication: Developing LLM-based Models to Generate Effective Counter Speech Against Misinformation

Xiaoying Song, Mamidisetty Sujana, Sharon Lisseth Perez, Lingzi Hong
Assessing AI-Generated Counter-Speech in Human Likeness

Komala Subramanyam Cherukuri, Kewei Sha, Haihua Chen
Evaluation of Privacy-Preserving Techniques for Edge Computing

Pranav Abishai Moses, Sharad Sharma
Active Shooter Response Training for Discovery Park Building

Yuhan Zhou, Fengjiao Tu, Kewei Sha, Junhua Ding, Haihua Chen
A Survey on Data Quality Dimensions and Tools for Machine Learning

Andrew Summit (undergraduate student), Sharad Sharma
Geospatial Mobile Application for Navigation and Emergency Response using Google Photorealistic 3D Tiles and Cesium for Unity

HEALTH INFORMATICS

Cheran Ratnam
Topics and Sentiments in Reddit About Health Wearables and Healthcare Professionals' Adoption of Wearables

Ian Abeyta, Jason Weinstein, Steve McDermott, Sharad Sharma, Heejun Kim
Human Biomechanics as a Digital Twin & Real-time Motion Capture in Unity 3D Game Engine

Ngan Tran, Haihua Chen, Ana Cleveland
Exploring Collaboration Patterns and Topics in Disaster Informatics during the Pandemic Era

Lokesh Karanam, S M Saiful Islam Badhon, Mohammed Adibuzzaman, K S M Tozammel Hossain
Continuous Anticipation of Acute Kidney Injury in the ICU using Time-Gated LSTMs

Sukruthi Vengala, Raja Avinash Potula, Haihua Chen, Ana Cleveland
An Analysis of the Dental Informatics Literature from 2018 – 2023: Keyword Extraction

Inaari Lakhani, Ashiya Bhandari (undergraduate students)
How Can Deep Learning Algorithms Enhance Patient Outcomes Using Electronic Health Records Data?