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IARIA

Jefferson
Thomas Jefferson University
HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

DATA MINING TOOLS FOR KNOWLEDGE DISCOVERY

Session Chair: Prof. Les Sztandera, PhD, Thomas Jefferson University, USA
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88001   Anil Gavade*, Rajendra Nerli*, Shridhar C. Ghagane*, and Les Sztandera "Revolutionizing Prostate Cancer Diagnosis: An Integrated Approach with Cutting-Edge Techniques and Advanced Algorithms for Gleason Grade Classification and Explainability", Thomas Jefferson University and * KLE Academy of Higher Education & Research, India

88002   Emma Frennborn , Khalil Rust, and Les Sztandera "Heavy Metals in Human Health and Pregnancy: How Data Analysis, Mining, and Modeling Present a Solution", Thomas Jefferson University

88003   Kellin DeJesus-Michaels, Leon Dunn*, David Thomas, and Les Sztandera "Recent Advances in Machine Learning for Log File-Based PSQA for IMRT and VMAT", Thomas Jefferson University and *Genesis Care, Australia

88004   Cali Sweitzer and Cassandra Mikkelson "Data Mining Techniques in Online Health Communities", Thomas Jefferson University

ABOUT THE SESSION CHAIR

Les Sztandera, PhD: Tenured Full Professor of Computer Science at Thomas Jefferson University, Philadelphia, PA, USA.

Prof. Sztandera earned a Certificate from University of Cambridge, UK, Master of Science in Electrical Engineering from University of Missouri, USA, and Doctor of Philosophy degree in Engineering Science from University of Toledo, Ohio, USA. He held an appointment in the US Fulbright Scholars program and was Fulbright Distinguished Chair in Computer Science at the University of Lisbon (ISEG), Portugal where he taught Decision Support Systems and Data Mining courses in their Master's and PhD programs.

Prof. Sztandera has published extensively in the field of Computational Intelligence, and received grants from US federal, state, and local agencies, as well as private industry partners.

His role model is late Prof. Mendel Trachtman, PhD, his first Jefferson Department Chair, whose motto still guides him till this very day: "We are here because the students are here."

SESSION TOPICS

- **Unsupervised and Supervised Learning**
- **Pattern Discovery**
- **Association Rule Learning**
- **Classification and Cluster Analysis**
- **Applications of Data Mining in Life Sciences**

SESSION THEME

Analyzing large amounts of data is a necessity. Data mining refers to extracting knowledge from large data repositories. Data mining techniques have found application in numerous scientific fields with the aim of uncovering previously unknown patterns and correlations, as well as predicting trends and behaviors. The goal of Data Mining Tools for Knowledge Discovery (DMTKD) is to present some the most common techniques and practices for knowledge discovery.

PROJECTION ON FUTURE CHALLENGES

Future challenges in Data Mining for Knowledge Discovery include maintaining data privacy and security, handling increasingly complex and diverse datasets, ensuring algorithm scalability, and addressing ethical concerns surrounding data usage and bias.