

Conference Program

3rd ISSAT International Conference on  
Data Science in Business, Finance and Industry

January 6-8, 2025

Dong A University, Da Nang, Vietnam

Conference Sponsor



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## Best Paper Award

### Prof. Kim Phuc Tran

(Univ. Lille, ENSAIT, ULR 2461 - GEMTEX, France)

#### **“Explainable Lightweight Federated Learning for Load Forecasting with Smart Meter Data”**

Le Vu Hoang Duc, Ngo Van Uc, Kim Duc Tran, Ludovic Koehl, Kim Phuc Tran

## Best Student Paper Award

### Mr. Yi Chen

(Beihang University, China)

#### **“Joint Optimization of Equipment Predictive Maintenance and Spare Part Ordering Policy Considering Spare Part Types”**

Yi Chen, Lan Chen, Xiaobing Ma, Fanping Wei, Li Yang



## Words Of Appreciation

We wish to express our appreciation and thanks to Dr. Nguyen Thi Anh Dao, President of Dong A University, Mr. Luong Minh Sam, Vice-Rector for hosting and supporting DSBFI 2025 Conference.

We would like to thank the Organizing Committee, Prof. Hoang Pham, Prof. Xufeng Zhao, Prof. Kim Phuc Tran for devoting your time and efforts in organizing and making it a success.

We would like to thank the members of the International Research Institute for Artificial intelligence and Data science, Dong A University, especially Dr. Tho Nguyen and Ms. Luc T. Nguyen for organizing many aspects of the conference such as logistics, catering, social events and time coordination.

We would like to thank the International Program Committee and the invited session organizers for your efforts in promoting the conference and organizing sessions.

Last but not least, we would like to thank all speakers and authors for participating in the conference and making it a success. Thank you for sharing your research works to our community. We truly appreciate your valuable contributions to the conference.

With gratitude,  
The International Society of Science and Applied Technologies

# Conference Program

MONDAY, JANUARY 6, 2025	
13:00 - 15:00	<b>Registration</b>
13:15 - 13:30	<p><b>Welcome and Opening Remarks</b></p> <p>Dr. Anh Dao Thi Nguyen, President of Dong A University, Vietnam            Prof. Hoang Pham, Rutgers University, USA</p>
13:30 - 15:00	<p><b>SESSION 1: Explainable Machine Learning &amp; Maintenance Policies</b>  <b>Chair: Prof. Xufeng Zhao (Nanjing Univ. of Aeronautics and Astronautics, China)</b></p> <hr/> <p>Speaker: Prof. Thi Hien Nguyen  <b>Explainable Anomaly Detection Framework for Cybersecurity In Smart Manufacturing</b>            Thi Hien Nguyen (<i>CY Cergy Paris Université, France</i>)            Kim Duc Tran (<i>Dong A University, Vietnam</i>)            Kim Phuc Tran (<i>Univ. Lille, ENSAIT, ULR 2461 - GEMTEX, France</i>)</p> <p>Speakers: Prof. Jungyeon Choi, Dr. Seung Woo Lee and Prof. Kwang Yoon Song  <b>A Study on the Development of the Classification Models Between Fallers and Non-Fallers with Wearable Sensors and Questionnaires in Older Adults</b>            Jungyeon Choi (<i>Chosun University, South Korea</i>)            Seung Woo Lee (<i>Chosun University, South Korea</i>)            Kwang Yoon Song (<i>Chosun University, South Korea</i>)</p> <p>Speaker: Prof. Xufeng Zhao  <b>Predictive Maintenance Strategy for Aero-Engines Considering Remaining Useful Life Prediction Interval</b>            Lubing Wang (<i>Nanjing University of Aeronautics and Astronautics, China</i>)            Xufeng Zhao (<i>Nanjing University of Aeronautics and Astronautics, China</i>)</p>
15:00 – 15:30	<b>Coffee Break</b>
15:30 - 17:00	<p><b>SESSION 2: Data-Driven Modeling and Simulation</b>  <b>Chair: Prof. Kim Phuc Tran (Univ. Lille, ENSAIT, ULR 2461 - GEMTEX, France)</b></p>

	<p>Speaker: Dr. Younsu Kim</p> <p><b>A Study on Comprehensive Judgment of Software Reliability Models Using Multi-Criteria Decision Methods</b>  Kwang Yoon Song (<i>Chosun University, South Korea</i>)  Youn Su Kim (<i>Chosun University, South Korea</i>)  In Hong Chang (<i>Chosun University, South Korea</i>)</p> <p>Speaker: Prof. Sujata Dash</p> <p><b>Predictive Modeling for Thyroid Cancer Diagnosis Using Xgboost: A Data-Driven Approach with Enhanced Interpretability and Accuracy</b>  Tarun Jaiswal (<i>NIT, India</i>)  Sujata Dash (<i>Nagaland Central University, India</i>)  Ganpati Panda (<i>CGU, India</i>)</p> <p>Speaker: Prof. Jianguo Wu</p> <p><b>Multi-System Gaussian Process Based Surrogate Modeling and Sequential Design for Expensive Computer Simulations</b>  Jiayu Dong (<i>Peking University, China</i>)  Jianguo Wu (<i>Peking University, China</i>)</p>
<p><b>17:15 - 20:00</b></p>	<p style="text-align: center;"><b>Welcome Dinner Cruise</b></p> <p style="text-align: center;"><b>Han River Dragon Boat</b></p> <p style="text-align: center;">Address: Bach Dang Street, Binh Hien Ward, Hai Chau District, Da Nang City (near the tail end of Dragon bridge)</p> <p style="text-align: center;">(Cruise attendees will be picked up and dropped off at Dong A University Please arrive at Dong A Univ. 10 minutes before the scheduled time with your name badge.)</p>

<b>TUESDAY, JANUARY 7, 2025</b>	
<p><b>8:30 – 9:30</b></p>	<p><b>SESSION 3: Predictive Analytics Models and Their Applications</b>  <b>Chair: Prof. Xi Zhang (Peking University, China)</b></p> <p>Speaker: Prof. Xufeng Zhao</p> <p><b>Application of a New Model Based on Convolutional Autoencoder Denoising Technique and Few-Shot Learning in Bearing Fault Diagnosis</b>  Ying Chen (<i>Nanjing University of Aeronautics and Astronautics, China</i>)  Mengshu Yang (<i>Nanjing University of Aeronautics and Astronautics, China</i>)  Xufeng Zhao (<i>Nanjing University of Aeronautics and Astronautics, China</i>)</p>

	<p>Speaker: Prof. Xi Zhang</p> <p><b>Predictive Analysis of Customer Churn in Gasoline Markets: Exploring the Impact of Price Commitment</b></p> <p>Boyang Li (<i>Peking University, China</i>) Xi Zhang (<i>Peking University, China</i>)</p>
<p><b>9:30 – 9:45</b></p>	<p><b>Coffee Break</b></p>
<p><b>9:45 – 12:15</b></p>	<p><b>SESSION 4: Statistical Machine Learning Models and Applications</b> <b>Chair: Prof. Kim Phuc Tran (Univ. Lille, ENSAIT, ULR 2461 - GEMTEX, France)</b></p> <p>Speaker: Ms. Nguyen Anh Luong</p> <p><b>The Role of Artificial Intelligence in Transforming Human Resources Management within the Textile Industry: Opportunities, Challenges, and Ethical Considerations in the Age of Industry 5.0</b></p> <p>Nguyen Anh Luong (<i>Dong A University, Vietnam</i>) Laëtitia Roux (<i>University of Lille, France</i>) Christel Beaucourt (<i>University of Lille, France</i>) Kim Phuc Tran (<i>University of Lille, France</i>)</p> <p>Speaker: Dr. Tho Nguyen</p> <p><b>A Comprehensive Approach to Tabular Data Classification: FT-Transformer Enhanced by KNN Imputation and ICA in Diabetes Classification</b></p> <p>Tho Nguyen (<i>Dong A University, Vietnam</i>) Hao Mai Xuan (<i>Dong A University, Vietnam</i>) Quoc-Thong Nguyen (<i>Dong A University, Vietnam</i>) Kim Duc Tran (<i>Dong A University, Vietnam</i>) Ludovic Koehl (<i>University of Lille, France</i>) Kim Phuc Tran (<i>University of Lille, France</i>)</p> <p>Speakers: Ms. Timea Banfalvi, Mr. Dac Hieu Nguyen and Mr. Kim Duc Tran</p> <p><b>Anomaly Detection in Morphologies of Human Legs for the Implementation of Adaptive Leg Morphotypes and Medical Compression Stockings</b></p> <p>Timea Banfalvi (<i>University of Lille, France</i>) Dac Hieu Nguyen (<i>Dong A University, Vietnam</i>) Kim Duc Tran (<i>University of Lille, France</i>) Guillaume Tartare (<i>University of Lille, France</i>) Pascal Bruniaux (<i>University of Lille, France</i>) Xianyi Zeng (<i>University of Lille, France</i>) Kim Phuc Tran (<i>University of Lille, France</i>)</p> <p>Speaker: Ms. Minh Anh Luong</p> <p><b>Intelligent Decision Support Systems for Supply Chain Management: Store Replenishment in Fashion Retailing</b></p> <p>Minh Anh Luong (<i>University of Lille, France</i>) Sébastien Thomassey (<i>University of Lille, France</i>) Kim Phuc Tran (<i>University of Lille, France</i>)</p>

	<p>Speaker: Prof. Phuc Kim Tran</p> <p><b>Explainable Lightweight Federated Learning for Load Forecasting with Smart Meter Data</b>  Le Vu Hoang Duc (<i>Dong A University, Vietnam</i>)  Ngo Van Uc (<i>Dong A University, Vietnam</i>)  Kim Duc Tran (<i>University of Lille, France</i>)  Ludovic Koehl (<i>University of Lille, France</i>)  Kim Phuc Tran (<i>University of Lille, France</i>)</p>
<b>12:15 – 13:15</b>	<b>Lunch</b>
<b>14:30 – 20:00</b>	<p style="text-align: center;"><b>Cultural Dinner Tour</b></p> <p style="text-align: center;"><b>Ngu Hanh Son</b> <b>Hoi An</b></p> <p style="text-align: center;">(Tour attendees will be picked up and dropped off at Dong A University. Please arrive at Dong A Univ. 10 minutes before the scheduled time with your name badge.)</p>

## WEDNESDAY, JANUARY 8, 2025

<b>9:00 - 11:00</b>	<p><b>SESSION 5: Statistical Machine Learning Models and Their Applications</b>  <b>Chair: Prof. Mingchih Chen (Fu Jen Catholic University, Taiwan)</b></p>
	<p>Speaker: Mr. Xingyu Dai</p> <p><b>Asset Returns Interval Forecasting: A Singular Spectral Analysis-Based Varying-Coefficient Autoregressive Conditional Interval Model</b>  Xingyu Dai (<i>Nanjing University Of Aeronautics And Astronautics, China</i>)  Roy Cerqueti (<i>Sapienza University of Rome, Italy</i>)  Dongna Zhang (<i>Northumbria University, United Kingdom</i>)  Qunwei Wang (<i>Nanjing University Of Aeronautics And Astronautics, China</i>)</p> <p>Speaker: Ms. Cancan Zhang</p> <p><b>Information Completeness Assessment of Demand Posts on Social Media for Enhanced Disaster Response</b>  Cancan Zhang (<i>Nanjing University of Aeronautics and Astronautics, China</i>)  Yudi Chen (<i>Nanjing University of Aeronautics and Astronautics, China</i>)</p> <p>Speakers: Mr. Cheikh Ahmadou Bamba Fall and Prof. Yoshiyuki Higuchi</p> <p><b>Enhancing Valuation and Pricing in Private Equity through Machine Learning</b>  Cheikh Ahmadou Bamba Fall (<i>Fukushima University, Japan</i>)  Yoshiyuki Higuchi (<i>Fukushima University, Japan</i>)</p>

Speaker: Prof. Mingchih Chen

**A Machine Learning-Based Predictive Model for Prostate-Specific Antigen Screening: Insights from SHAP Values Analysis**

Yen Chun Huang (*Tamkang University, Taiwan*)

Yi-Ting Lin (*St. Joseph Hospital, Taiwan*)

Mingchih Chen (*Fu Jen Catholic University, Taiwan*)

Him-Hua Ho (*National Changhua University of Education, Taiwan*)

11:00 - 13:00

**SESSION 6: Predictive Modeling, Analysis & Optimization**

**Chair: Prof. Kim Phuc Tran (Univ. Lille, ENSAIT, ULR 2461 - GEMTEX, France)**

Speaker: Ms. Yan Cui

**Individualism/Collectivism and Charitable Donations: An Empirical Analysis at the National, Regional, and Personal Levels**

Yan Cui (*East China University of Science and Technology, China*)

Zhi-Qiang Jiang (*East China University of Science and Technology, China*)

Li Wang (*East China University of Science and Technology, China*)

Wei-Xing Zhou (*East China University of Science and Technology, China*)

Speakers: Ms. Qianyao Zhang and Ms. Jing Wang

**Research and Simulation of Omni-Channel Return Strategies Considering Consumer Channel Preferences**

Qianyao Zhang (*Nanjing University Of Aeronautics And Astronautics, China*)

Qing Zhang (*Nanjing University Of Aeronautics And Astronautics, China*)

Qiuying Xiao (*Nanjing University Of Aeronautics And Astronautics, China*)

Jing Wang (*Nanjing University Of Aeronautics And Astronautics, China*)

Speaker: Ms. Yining Zhang

**A Bi-Level Framework for Modeling Two-Stage Electricity Spot Market Trading with Renewable Energy Participation**

Yining Zhang (*Nanjing University Of Aeronautics And Astronautics, China*)

Dequn Zhou (*Nanjing University Of Aeronautics And Astronautics, China*)

Hao Din (*Nanjing University Of Aeronautics And Astronautics, China*)

Speaker: Mr. Yi Chen

**Joint Optimization of Equipment Predictive Maintenance and Spare Part Ordering Policy Considering Spare Part Types**

Yi Chen (*Beihang University, China*)

Lan Chen (*Beijing Zongheng Electro-Mechanical Technology Co. Ltd, China*)

Xiaobing Ma (*Beihang University, China*)

Fanping Wei (*Beihang University, China*)

Li Yang (*Beihang University, China*)

13:00

**Adjourn!**