

Program

The Third International Conference on Artificial Intelligence and Computational Intelligence (AICI 2022)

January 14-15, 2022, Hanoi, Vietnam

Themes: Deep Learning, Explainable AI, Evaluation of AI systems with Biomedical and other Applications

Organized by Thang Long University and VFSS with sponsor of IFSA by virtual mode (online)
Add: Nghiem Xuan Yem Road, Hoang Mai District, Hanoi, Vietnam

(Website: <https://aici2022.thanglong.edu.vn>)

January 14 (Friday)

8:30-8:50

Opening Ceremony

Greetings from the Organizing Committee/Thang Long University
Greetings from Scientific Committee by Nguyen Hoang Phuong
Greetings from Vice President of IFSA by Vladik Kreinovich

8:50-9:30

Keynote Speech 1 : Chair: **Zung Nguyen Tien**

Universite de Toulouse and Torus
Actions SAS, France

Title: Why Rectified Linear Neurons: Two Convexity-Related Explanations

Vladik Kreinovich

(Authors: Jonatan Contreras, Martine Ceberio, Olga Kosheleva, Vladik
Kreinovich, and Nguyen Hoang Phuong)
IFSA Vice President, University of Texas at El Paso, USA

9:30-10:10

Keynote Speech 2 : Chair: **Nguyen Hoang Phuong**

Thang Long University, Vietnam

Title: Modelling and Constructing Intelligent Forecasting System for Agricultural Applications

Liya Ding

School of Science and Technology, Meiji University, Japan

10:10-10:20

Coffee Break

10:20-12:00

***FRIL-A: Computational
Intelligence in Bio-Medicine &
other Applications***

Chair: **Vladik Kreinovich**
University of Texas at El Paso, USA

FRI1-A1 10:20-10:40	<p>A systematic review of privacy-preserving Blockchain in e-medicine Usman Ahmad Usmani*, Junzo Watada**, Jafreezal Jaafar* and Izzatdin Abdul Aziz* *Universiti Teknologi Petronas, UTP, Seri Iskandar, 32610, Perak, Malaysia ** Waseda University, 82610, Japan email:usman_19001067@utp.edu.my;junzo.watada@gmail.com;jafreez@utp.edu.my; izzatdin@utp.edu.my</p>
FRI1-A2 10:40-11:00	<p>Question-Answering System over Knowledge Graphs using Analogical-Problem-Solving Approach Nhuan D. To University of Alberta, Canada & Nam Dinh University of Technology Education, Vietnam ,e-mail: nhuan@ualberta.ca Marek Z. Reformat University of Alberta, Canada & University of Social Sciences, Poland e-mail: marek@ualberta.ca Ronald R. Yager Iona College, New Rochelle, NY 10801 & King Abdelaziz University, Jeddah, Saudi Arabia, e-mail: yager@panix.com</p>
FRI1-A3 11:00-11:20	<p>Disease Diagnosis based on Symptoms Description with Tokenizer and Bi-directional Recurrent Neural Networks Huong Hoang Luong* , Phong Cao Nguyen* , and Hai Thanh Nguyen** *FPT University, Can Tho, Vietnam, Email:{huonghoangluong, caophongncpj }@gmail.com ** Can Tho University, Can Tho, Vietnam, email:nthai.cit@ctu.edu.vn</p>
FRI1-A4 11:20-11:40	<p>Chest X-ray Image Analysis with ResNet50, SMOTE and SafeSMOTE Nam Anh Dao Electric Power University, Hanoi, Vietnam; e-mail: anhdn@epu.edu.vn Xuan Tho Dang Hanoi National University of Education, Hanoi, Vietnam</p>
FRI1-A5 11:40-12:00	<p>Weakly Supervised Localization of the Abnormal Regions in Breast Cancer X-Ray images using patches classification Hoang - Phuong Nguyen Thang Long University, Nghiem Xuan Yem Road, Hoang Mai District, Hanoi, Vietnam, Emails: nhphuong2008@gmail.com Ha Manh Toan Institute of Information Technology, Vietnam Academy of Science and Technology, Hanoi, Vietnam, Email:hmtoan@ioit.ac.vn Le Tuan Linh, Nguyen Ngoc Cuong, Bui My Hanh Hanoi Medical University Hospital, 1 Ton That Tung Street, Hanoi, Vietnam Email: linhdyhn2017@gmail.com, cuongcdha@hmu.edu.vn, buimyanh@hmu.edu.vn</p>
12:00 -13:30	<p>Lunch</p>
13:30-15:10	<p><i>FRI1-B: Artificial Intelligence and Computational Intelligence</i> Chair: Nguyen Thi Huyen Chau Thang Long University, Vietnam</p>
FRI1-B1	<p>Effects Evaluation of Augmentation Techniques on Common Seafood Types Classification tasks</p>

- 13:30-13:50 **Hai Thanh Nguyen, Chi Le Hoang Tran**
College of Information and Communication Technology, Can Tho University, Can Tho, 900100 Vietnam, e-mail: nthai.cit@ctu.edu.vn, lechi98.ct@gmail.com
Ngan Kim Thi Nguyen
Faculty of Information Technology, Kien Giang College, Kien Giang, Vietnam, e-mail: nfkngan@kgc.edu.vn
Huong Hoang Luong
FPT University, e-mail: huonghoangluong@gmail.com
- FRI1-B2**
13:50-14:10 **Image Caption Generator with a Combination between Convolutional Neural Network and Long Short-Term Memory**
Nguyen Thi Thuy Duy, Nguyen Thanh Hai
College of Information and Communication Technology, Can Tho University, Can Tho, 900100 Vietnam, e-mail: thuyduy234@gmail.com, nthai.cit@ctu.edu.vn
- FRI1-B3**
14:10-14:30 **Clothing Classification using Shallow Convolutional Neural Networks**
Nguyen Lam Truc Mai, Nguyen Thanh Hai
College of Information and Communication Technology, Can Tho University, Can Tho, 900100 Vietnam, e-mail: trucmainguyenlam@gmail.com, nthai.cit@ctu.edu.vn
- FRI1-B4**
14:30-14:50 **Similar Vietnamese Document Detection in Online Assignment Submission System**
Hai Thanh Nguyen, Trinh Kieu Nguyen, Minh Tri Pham, Chi Le Hoang Tran, Dien Tran Thanh and Thai-Nghe Nguyen (Vietnam)
Email: nthai.cit@ctu.edu.vn; trinhnguyenk43@gmail.com; haiminh2231999@gmail.com; lechi98.ct@gmail.com; thanhdien@ctu.edu.vn; ntnghe@ctu.edu.vn
- FRI1-B5**
14:50-15:10 **Topic Model - Machine Learning Classifier integrations on geocoded Twitter data**
Gillian Kant, Christoph Weisser, Thomas Kneib, and Benjamin Saffken
Georg-August-Universität Göttingen, Humboldtallee 3,37073 Göttingen, Germany, UST-ID DE286 005 408 (Universität Göttingen)
Email: gillian.kant@stud.uni-goettingen.de; c.weisser@stud.uni-goettingen.de; tkneib@uni-goettingen.de; benjamin.saeffen@uni-goettingen.de;
- 15:10 - 15:20** **Coffee Break**
- 15:20 - 16:40** **FRI2-A: Fuzzy systems and Machine Learning**
Chair: **Liya Ding**
School of Science and Technology , Meiji University, Japan
- FRI2-A1**
15:20 - 15:40 **Fuzzy Transform on Manifolds**
Thi Minh Tam Pham
Department of Mathematics, Faculty of Science, University of Ostrava, 30. dubna 22, 701 03 Ostrava, Czech Republic, e-mail: p19171@student.osu.cz
Jiří Janeček
Department of Mathematics, Faculty of Science, University of Ostrava, 30. dubna 22, 701 03 Ostrava, Czech Republic e-mail: Jiri.Janecek@osu.cz
Irina Perfilieva
Institute for Research and Applications of Fuzzy Modeling, University of Ostrava, 30. dubna 22, 701 03 Ostrava, Czech Republic e-mail: Irina.Perfilieva@osu.cz

- FRI2-A2**
15:40 - 16:00
Shop product tracking and early fire detection application on edge devices
Tuan Linh Dang
School of Information and Communications Technology, Hanoi University of Science and Technology, Hanoi 100000, Vietnam
e-mail: linhdt@soict.hust.edu.vn
Viet Tien Ha
School of Information and Communications Technology, Hanoi University of Science and Technology, Hanoi 100000, Vietnam
e-mail: tien.hv167467@sis.hust.edu.vn
- FRI2-A3**
16:00 - 16:20
SDN delay prediction using machine learning algorithms
Tuan Linh Dang
School of Information and Communications Technology, Hanoi University of Science and Technology, Hanoi 100000, Vietnam,
e-mail: linhdt@soict.hust.edu.vn
Nhat Minh Ngo
Hanoi University of Science and Technology, Hanoi 100000, Vietnam
e-mail: minh.nn170098@sis.hust.edu.vn
- FRI2-A4**
16:20 - 16:40
A Study of Causal Modeling with Time Delay for Frost Forecast Using Machine Learning from Data
Shugo Yoshida*, Yosuke Tamura*, Kenta Owada* , Liya Ding* , Kosuke Noborio and Kazuki Shibuya****
*School of Science and Technology, Meiji University, 1-1-1, Higashimita, Tama-ku, Kawasaki, 214-8571, Kanagawa, Japan.
**School of Agriculture, Meiji University, 1-1-1, Higashimita, Tama-ku, Kawasaki, 214-8571, Kanagawa, Japan.

JANUARY 15 (Saturday)

- 8:30-10:10**
SAT1-A: Soft Computing and Applications
Chair: **Zung Nguyen Tien**
Universite de Toulouse and Torus
Actions SAS, France
- SAT1-A1**
8:30-8:50
How to Work? How to Study? Shall We Cram for the Exams? And How Is This Related to Life on Earth?
Olga Kosheleva, and Vladik Kreinovich
University of Texas at El Paso, El Paso, Texas 79968, USA
e-mail: olgak@utep.edu, vladik@utep.edu
Nguyen Hoang Phuong
Division Informatics, Math-Informatics Faculty, Thang Long University, Nghiem Xuan Yem Road Hoang Mai District, Hanoi, Vietnam,
e-mail: nhphuong2008@gmail.com
- SAT1-A2**
8:50-9:10
Why Quantum Techniques Are a Good First Approximation to Economic Phenomena, and What Next
Olga Kosheleva and Vladik Kreinovich
University of Texas at El Paso, 500 W. University El Paso, TX 79968, USA
e-mail: olgak@utep.edu, vladik@utep.edu

SAT1-A3

How the Pavement's Lifetime Depends on the Stress Level: An

9:10-9:30

Explanation of the Empirical Formula

Edgar Daniel Rodriguez Velasquez

Department of Civil Engineering, Universidad de Piura in Peru (UDEP), Av. Ramon Mugica 131 ´ Piura, Peru, e-mail: edgar.rodriguez@udep.pe and Department of Civil Engineering, University of Texas at El Paso, 500 W. University El Paso, TX 79968, USA, e-mail: edrodriguezvelasquez@miners.utep.edu

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Hoang Phuong Nguyen

Division Informatics, Math-Informatics Faculty, Thang Long University, Nghiem Xuan Yem Road Hoang Mai District, Hanoi, Vietnam, e-mail: nhphuong2008@gmail.com

SAT1-A4

9:30-9:50

Freedom of Will, Physics, and Human Intelligence: An Idea

Miroslav Sv´itek

Faculty of Transportation Sciences, Czech Technical University in Prague, Konviktska 20 CZ-110 00 Prague 1, Czech Republic, e-mail: svitek@fd.cvut.cz

Vladik Kreinovich

Department of Computer Science, University of Texas at El Paso, 500 W. University El Paso, TX 79968, USA, e-mail: vladik@utep.edu

Nguyen Hoang Phuong

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SAT1 – A5

9:50-10:10

Why Normalized Difference Vegetation Index (NDVI)?

Francisco Zapata, Eric Smith, and Vladik Kreinovich

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Nguyen Hoang Phuong

Division Informatics, Math-Informatics Faculty, Thang Long University, Nghiem Xuan Yem Road Hoang Mai District, Hanoi, Vietnam, e-mail: nhphuong2008@gmail.com

10:10 - 10:20

Coffee Break

10:20 - 11:50

SAT1-B: Artificial Intelligence and Neural Networks

Chair: **Thai Quang Vinh**

Institute of Information Technology, VAST, Vietnam

SAT1-B1

10:20-10:40

Binary Image Classification Using Convolutional Neural Network for V2V Communication Systems

Hoang-Thong Vo

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Ngan-Linh Nguyen

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Department of Computer Science and Engineering, Sejong University, Seoul, South Korea, e-mail: nndao@sejong.ac.kr

SAT1-B2

10:40-11:10

A linear neural network approach for solving partial differential equations on porous domains

T.T.V. Le* , **C-D. Le*** , **K. Le-Cao*****

* Institute of Applied Mechanics and Informatics, Viet Nam Academy of Science and Technology (VAST)

** Institute of Mechanical Engineering, Ho Chi Minh City University of Transport

*** Department of Mechanical Engineering, National University of Singapore

SAT1-B3

11:10-11:30

Stochastic simulations of airborne particles in a fibre matrix

T.T.V. Le* , **K. Le-Cao**** , **T. Ba-Quoc**** , **Y. Nguyen-Quoc*****

*Institute of Applied Mechanics and Informatics, Viet Nam Academy of Science and Technology (VAST), Vietnam

**Department of Mechanical Engineering, National University of Singapore

***Department of Engineering, Van Lang University

SAT1-B4

11:30-11:50

Accuracy measures and the convexity of ROC curves for binary classification problems

Le Bich Phuong

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Nguyen Tien Zung

Universite de Toulouse and Torus Actions SAS, France

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11:50

Closing