



**5<sup>TH</sup> INTERNATIONAL CONFERENCE ON  
APPLIED INTELLIGENCE AND INFORMATICS (AII 2025)**  
**Fostering Reproducibility of Research Results**  
**28 - 30 OCT 2025, WASHINGTON D.C., USA**



**5<sup>th</sup> International Conference on  
Applied Intelligence and Informatics  
(AII 2025)**

**Conference Programme Book**

October 28-30, 2025

Hybrid (In-person and Online) Conference

<https://aai-conf.org/>

**Hosted by**



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## Programme Snapshot

All times are in **Washington, D.C., USA (EST, GMT-5)**

**Zoom Meeting:**  
ID: 862 8215 7742  
Passcode: AIIConf

Zoom session link: <https://us06web.zoom.us/j/86282157742?pwd=dBWPk8edu1vhA2URloRDdbwIKlvPz5.1>

### Day 1: October 28, 2025 (Conference Day 1 – hybrid mode)

13:30 – 14:30	<b>Registration and welcome networking</b>	
14:30 – 15:00	<b>Conference Inauguration</b>	
15:00 – 16:00	Keynote Session I	Prof Giorgio Ascoli, George Mason University, USA
16:00 – 17:00	Technical Session I	Applied Intelligence I (Paper IDs: 2025051113, 2025051118, 2025051107, 2025051111)
17:00 – 18:00	Panel Discussion	Panel Discussion on “Multi-Agent System Safety and Teamwork (MASST): Issues and Perspectives,” Prof Jeffrey M. Bradshaw, Institute for Human and Machine Cognition, USA
18:30 – 21:30	<b>All 2025 Banquet</b>	
21:30	<b>Close of Day 1</b>	

### Day 2: October 29, 2025 (Conference Day 2 – online mode)

09:00 – 10:00	Keynote Session II	Prof Nelishia Pillay, University of Pretoria, South Africa
10:00 – 11:00		Prof Sheikh M. Shariful Islam, Texas Tech University, Texas, USA
<b>Comfort Break</b>		
11:15 – 12:45	Technical Session II	Applied Intelligence II (Paper IDs: 2025051005, 2025051018, 2025051030, 2025051006, 2025051074, 2025051097)
<b>Working Lunch</b>		
13:00 – 14:00	Technical Session III	Applied Intelligence III (Paper IDs: 2025051054, 2025051055, 2025051016, 2025051017)
14:00 – 15:30	Technical Session VI	Applied Intelligence IV (Paper IDs: 2025051010, 2025051012, 2025051013, 2025051022, 2025051032, 2025051071)
<b>Comfort Break</b>		
15:45 – 17:15	Technical Session V	Applied Informatics I (Paper IDs: 2025051007, 2025051011, 2025051056, 2025051026, 2025051051, 2025051052)
17:45	<b>Close of Day 2</b>	

### Day 3: October 30, 2025 (Conference Day 3 – online mode)

09:00 – 10:00	Industry Session	Dr Suleiman Ali Khan, Amazon Inc., USA
10:00 – 10:30		Mr Lisan Al Amin, Cognitive Links LLC, USA
10:30 – 13:00	Technical Session VI	Applied Informatics II (Paper IDs: 2025051003, 2025051027, 2025051038, 2025051004, 2025051119, 2025051008, 2025051108, 2025051098, 2025051036, 2025051073)
13:00 – 13:30	<b>Closing Ceremony + Awards + Next AII 2026 Announcement</b>	
13:30	<b>Close of Conference</b>	

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### Day 01: Tuesday, 28 October 2025

#### 13:30 – 15:00 Welcome Session

13:30 – 14:30 Registration, conference kit collection, and welcome networking

14:30 – 15:00 Conference Inauguration

#### 15:00 – 16:00 Hybrid Keynote Session I

*Zoom Meeting ID: 862 8215 7742; Meeting Passcode: AIIConf*

15:00 – 16:00 Keynote Speaker: **Prof Giorgio Ascoli**, George Mason University, USA

Title: **Neurons are trees! Should AI reckon with neuroscience?**

Chair: **Prof Mufti Mahmud**, King Fahd University of Petroleum and Minerals, KSA

#### 16:00 – 17:00 Hybrid Technical Session I: Applied Intelligence I

*Zoom Meeting ID: 862 8215 7742; Meeting Passcode: AIIConf*

Chair: **Dr Sayed Mohsin Reza**, Penn State University Harrisburg, USA

16:00 – 16:15 **Paper ID: 2025051113**

**Paper title:** Vertical AI for Kidney Stone Detection: Knowledge-Distilled CNNs with student-teacher model for Ultrasound Imaging

**Authors:** Md Mahfuzur Rhaman, Md Ashiq Ul Islam Sajid, Sumaya Binte Zilani Choya

**Presenter:** Sumaya Binte Zilani Choya

16:15 – 16:30 **Paper ID: 2025051118**

**Paper title:** AI Safety in the U.S. Critical Systems: Balancing Robustness and Accuracy

**Authors:** Abu Zahid Md Jalal Uddin, Md Ashraful Islam Nayem, Kh Said Al Mamun, Touhid Bhuiyan

**Presenter:** Abu Zahid Md Jalal Uddin Joy

16:30 – 16:45 **Paper ID: 2025051107**

**Paper title:** Impact of Feature Selection on Classification: Comparing Chi-Square and PCA

**Authors:** Jalal Ahmmmed, Jannatun Naim Ema, Md Alamgir Kabir, Abu Zahid Md Jalal Uddin, Touhid Bhuiyan

**Presenter:** Jalal Ahmmmed

16:45 – 17:00 **Paper ID: 2025051111**

**Paper title:** DeRoXGB: A Hybrid Framework to Enhance Sentiment Analysis Using Transformer-Based Models and Gradient Boosting Algorithm

**Authors:** Tousif Al Mohaimin, Anzir Rahman Khan, Md Alamgir Kabir, Abu Zahid Md Jalal Uddin, Abubokor Hanip

**Presenter:** Anzir Rahman Khan

18:30 –

21:30

#### All 2025 Banquet

21:30

#### Close of Day 1

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### Day 02: Wednesday, 29 October 2025

#### 09:00 – 11:00 Online Keynote Session I

Zoom Meeting ID: 862 8215 7742; Meeting Passcode: AIIConf

09:00 – 10:00      Keynote Speaker: **Prof Nelishia Pillay**, University of Pretoria, South Africa  
 Title: **Advancing Healthcare Using Emerging Trends in Artificial Intelligence**  
 Chair: **Prof Touhid Bhuiyan**, Washington University of Science and Technology, USA

10:00 – 11:00      Keynote Speaker: **Prof Sheikh M. Shariful Islam**, Texas Tech University, Texas, USA  
 Title: **From Data to Decisions: Evidence-Based Integration of Wearable Technologies and Artificial Intelligence for the Future of Health**  
 Chair: **Prof M Shamim Kaiser**, Jahangirnagar University, Bangladesh

#### 11:00 – 11:15 Comfort Break

#### 11:15 – 12:45 Online Technical Session I: Applied Intelligence II

Zoom Meeting ID: 862 8215 7742; Meeting Passcode: AIIConf

Chair: **Dr Md Saef Ullah Miah**, American International University Bangladesh, Bangladesh

11:15 – 11:30      **Paper ID: 2025051005**  
**Paper title:** Enhancing Lung Cancer Recognition through Deep Learning: A Comparative Analysis of CT and Histopathological Imaging  
**Authors:** Md. Ashraful Babu, Nadim Ahmed, Zarif Wasif Bhuiyan, Mufti Mahmud  
**Presenter:** Nadim Ahmed

11:30 – 11:45      **Paper ID: 2025051018**  
**Paper title:** DSK-Chain: A Hybrid Approach to Improve the Performance of Lazy Learner Variants for Chronic Metabolic Diseases  
**Authors:** Moyaj Ibne Akbar, Md. Shahriare Satu, Debasish Kumar Dey, Shahadat Uddin, Mohammad Ali Moni  
**Presenter:** Moyaj Ibne Akbar

11:45 – 12:00      **Paper ID: 2025051030**  
**Paper title:** Gender-based classification of Sandfly Genitalia using Attention-based CNN and Pre-trained models  
**Authors:** Md Ripon Al Mamun, Maksura Binte Rabbani Nuha, Mariya Rahman Momo, Md Tahsin, Akil Rahman Efad, M. Saddam Hossain Khan, Mohammad Rifat Ahmmad Rashid, Raihan Ul Islam, Rashedul Amin Tuhin, Mohammad Shahadat Hossain  
**Presenter:** Maksura Binte Rabbani Nuha

12:00 – 12:15      **Paper ID: 2025051006**  
**Paper title:** DGG-XNet: A Hybrid Deep Learning Model for Multi-Class Brain Disease Classification with Explainable AI  
**Authors:** Sumshun Nahar Eity, Mahin Montasir Afif, Tanisha Fairooz, Md. Mortuza Ahmed, Md Saef Ullah Miah, M. Mostafizur Rahman, Mufti Mahmud  
**Presenter:** Sumshun Nahar Eity

12:15 – 12:30      **Paper ID: 2025051074**  
**Paper title:** An Ensemble Machine Learning Framework for Predicting Mental Health States in Addictive and Inappropriate Social Media Usage: Insights from Bangladesh  
**Authors:** Tasnimul Intazam Asif, Faisal Imran, Zahir Rayhan Salim  
**Presenter:** Tasnimul Intazam Asif

**Paper ID: 2025051097**12:30 –  
12:45

**Paper title:** Contrastive Self-Supervised Learning Framework for Multi-Class Alzheimer's Disease Diagnosis from MRI Images

**Authors:** Francis Rudra D Cruze, S M Hasan Mahmud, Md. Faruk Hosen

**Presenter:** Francis Rudra D Cruze

**12:45 – 14:00 Working Lunch****13:00 – 14:00 Online Technical Session II: Applied Intelligence III**

*Zoom Meeting ID: 862 8215 7742; Meeting Passcode: AIIConf*

Chair: **Dr Md Mahfuzur Rahman**, King Fahd University of Petroleum and Minerals, KSA

13:00 –  
13:15**Paper ID: 2025051054**

**Paper title:** Urdu Extractive Text Summarization: Evaluating Sentence Scoring Techniques

**Authors:** Ali Faheem, Faizad Ullah, Muhammad Sohaib Ayub, Asim Karim

**Presenter:** Ali Faheem

13:15 –  
13:30**Paper ID: 2025051055**

**Paper title:** Automated Bangla to IPA Transliteration Using Sequence-to-Sequence Models with Attention Mechanism

**Authors:** Nazmus Sakib Apurba, Faisal Imran, Zahir Rayhan Salim

**Presenter:** Nazmus Sakib Apurba

13:30 –  
13:45**Paper ID: 2025051016**

**Paper title:** CodeMixEcom Emotion: A Large-Scale Bangla–English Review Corpus and Transformer-Based Benchmark for Fine Grained Emotion Detection

**Authors:** Aritra Das, Karib Shams, Md. Rakibul Hasan, Mohammad Rifat Ahmmad Rashid, Raihan Ul Islam, Shamim H Ripon, Ahmed Wasif Reza

**Presenter:** Md. Rakibul Hasan

13:45 –  
14:00**Paper ID: 2025051017**

**Paper title:** A Hybrid MLP-XGBoost Architecture for Pairwise Product Comparison Using Multimodal Features

**Authors:** Hasin Almas Sifat, Koushik Biswas Arko, Md. Mortuza Ahmmmed, Kanad Ray, Abzetedin Adamov

**Presenter:** Hasin Almas Sifat

**14:00 – 15:30 Online Technical Session III: Applied Intelligence IV**

*Zoom Meeting ID: 862 8215 7742; Meeting Passcode: AIIConf*

Chair: **Dr M Arifur Rahman**, Nottingham Trent University, UK

14:00 –  
14:15**Paper ID: 2025051010**

**Paper title:** Malicious Network Intrusion Detection Using Stacked Ensemble with Explainable AI Techniques

**Authors:** Arnob Bhowmik, Tamim Hasan Apurbo, Mahin Montasir Afif, Md. Mortuza Ahmmmed, Md. Ashraful Babu

**Presenter:** Arnob Bhowmik

14:15 –  
14:30**Paper ID: 2025051012**

**Paper title:** LayerEdge: A Scalable, Secure Layer 2 DEX Platform for the Ethereum Blockchain

**Authors:** Ayush Patil, Azka Wani, Niha Kamal Basha

**Presenter:** Ayush Patil, Niha Kamal Basha

<b>Paper ID: 2025051013</b> 14:30 – 14:45 <b>Paper title:</b> Phishing URL Detection via QR Code Transformation Using CNN <b>Authors:</b> Hamdan Ahmed, Md Mahfuzur Rahman, Raed Katib <b>Presenter:</b> <i>Hamdan Ahmed</i>
<b>Paper ID: 2025051022</b> 14:45 – 15:00 <b>Paper title:</b> AI-Driven Multi-Agent Reinforcement Learning for Dynamic Coalition Formation in Co-working Networks - A Case Study <b>Authors:</b> Massimiliano Ferrara <b>Presenter:</b> <i>Massimiliano Ferrara</i>
<b>Paper ID: 2025051032</b> 15:00 – 15:15 <b>Paper title:</b> Analyzing Software Resource Consumption Data for Sustainable Green Software Development: A Predictive Model to Reduce and Optimize Energy Consumption in Software <b>Authors:</b> Fady Desoky S. Abdelaziz, Kareem Kamal A. Ghany <b>Presenter:</b> <i>Fady Desoky Saeed Abdelaziz</i>
<b>Paper ID: 2025051071</b> 15:15 – 15:30 <b>Paper title:</b> Analysis of Mechanical Behavior in Carbon Fiber Powder Reinforced High Density Polyethylene without Filler Addition and its Applications <b>Authors:</b> Zahid Ahsan, Abdullah Al Hasan, Samsul Islam, Subrata Saha, Arif Md Shahed Iqubal, Md Shamim Rayhan <b>Presenter:</b> <i>Zahid Ahsan</i>
<b>15:30 – 15:45 Comfort Break</b>
<b>15:45 – 17:15 Online Technical Session IV: Applied Informatics I</b> <i>Zoom Meeting ID: 862 8215 7742; Meeting Passcode: AIIConf</i> <b>Chair:</b> <i>Prof M Mostafizur Rahman</i> , American International University Bangladesh, Bangladesh
<b>Paper ID: 2025051007</b> 15:45 – 16:00 <b>Paper title:</b> Overfitting-Aware Comparative Study of Sentiment Classifiers on Chat-Based Datasets <b>Authors:</b> Riya Das, Mahmudul Haque Shakir, Sunipun Seemanta, Shovan Roy, M. Mostafizur Rahman <b>Presenter:</b> <i>M. Mostafizur Rahman</i>
<b>Paper ID: 2025051011</b> 16:00 – 16:15 <b>Paper title:</b> Exploring Therapeutic Targets, Gene Regulatory Networks, and Potential Drugs in Obesity and Pancreatic Cancer <b>Authors:</b> Md. Mehedi Hasan Khan Siam, Yasmin Akter Bipasha, Ram Prosad Sarker, Bikash Kumar Paul, Touhid Bhuiyan <b>Presenter:</b> <i>Md. Mehedi Hasan Khan Siam</i>
<b>Paper ID: 2025051056</b> 16:15 – 16:30 <b>Paper title:</b> A Transformer-Based Approach for Sentiment Analysis of Arabic Social Media Content <b>Authors:</b> Nazmus Sakib Apurba, Faisal Imran, Zahir Rayhan Salim <b>Presenter:</b> <i>Nazmus Sakib Apurba</i>
<b>Paper ID: 2025051026</b> 16:30 – 16:45 <b>Paper title:</b> Unlocking the Future of Ethics: Leveraging Synthetic Data to Improve Higher Education Dropout Prediction with Machine Learning <b>Authors:</b> Muhammad Amin Nadim, Emanuele Marsico <b>Presenter:</b> <i>Muhammad Amin Nadim</i>

16:45 –  
17:00

**Paper ID: 2025051051**

**Paper title:** Analyzing Topics and Sentiments of Arabic Twitter Discourse on COVID-19: Evidence from Saudi Arabia and the United Arab Emirates

**Authors:** Nehad A. Alnahari, Md Mahfuzur Rahman, Omer S. Alkhnbashi

**Presenter:** Nehad Alnahari

17:00 –  
17:15

**Paper ID: 2025051052**

**Paper title:** FedAvg-ResNet50: Privacy-Preserving Explainable Acute Leukemia Classification

**Authors:** Md. Tofael Ahmed Bhuiyan, Md. Abdur Rahman, Zakir Hossain, Md. Fokrul Islam Khan, Abdul Kadar Muhammad Masum

**Presenter:** Md. Tofael Ahmed Bhuiyan

17:45

**Close of Day 2**

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**Day 03: Thursday, 30 October 2025****09:00 – 10:00 Industry Session**

Zoom Meeting ID: 862 8215 7742; Meeting Passcode: AIIConf

09:00 –  
10:00

**Keynote Speaker:** Dr Suleiman Ali Khan, Amazon Inc., USA

**Title:** Collaborative Learning at Scale in Healthcare

**Chair:** Prof S M Shariful Islam, Texas Tech University, USA

10:00 –  
10:30

**Invited Speaker:** Mr Lisan Al Amin, Cognitive Links LLC, USA

**10:30 – 13:00 Online Technical Session V: Applied Informatics II**

Zoom Meeting ID: 862 8215 7742; Meeting Passcode: AIIConf

**Chair:** Dr Noushath Shaffi, Sultan Qaboos University, Oman

10:30 –  
10:45

**Paper ID: 2025051003**

**Paper title:** Optimizing and Enhancing Model Performance in the Analysis of Male Domestic Violence with XAI

**Authors:** Md. Sayem Kabir, K. M. Tahsin Kabir, Tasnim Sultana Sintheia, Mian Mohammad Rassel, Md. Saef Ullah Miah, Kanad Ray

**Presenter:** Md. Sayem Kabir

10:45 –  
11:00

**Paper ID: 2025051027**

**Paper title:** Pegaso RAG-Dropout: An Interpretable Hybrid Machine Learning and Large Language Model Framework for Student Attrition Prediction

**Authors:** Muhammad Amin Nadim, Emanuele Marsico

**Presenter:** Muhammad Amin Nadim

11:00 –  
11:15

**Paper ID: 2025051038**

**Paper title:** Tomato Disease Diagnosis with Self-Supervision for Class-Imbalanced Leaf Images

**Authors:** Tomal Ahmed Pantho, Md. Atik Ahammed, Fabiha Tabassum, M. Saddam Hossain Khan, Rashedul Amin Tuhin, Raihan UI Islam, Mohammad Rifat Ahmmad Rashid, Mohammad Shahadat Hossain

**Presenter:** Tomal Ahmed Pantho

11:15 –  
11:30

**Paper ID: 2025051004**

**Paper title:** Smart Farming with MCPNet: A Hybrid Deep Learning Framework for Multi-Crop Pest Detection

**Authors:** Nadim Ahmed, Md. Ashraful Babu, Zarif Wasif Bhuiyan, Kavikumar Jacob

**Presenter:** Nadim Ahmed

11:30 –  
11:45

**Paper ID: 2025051119**

**Paper title:** Predicting Cognitive Change Over Time: Feature Fusion of Spatial Navigation Metrics and EEG Data in Machine Learning Models

**Authors:** Matthew C Harris, Mufti Mahmud, Mohammad Arifur Rahman, Pratik Vyas, Nicholas Shopland, Bonnie Connor, James Lewis, David J Brown

**Presenter:** *Matthew C Harris*

11:45 –  
12:00

**Paper ID: 2025051008**

**Paper title:** A Feature Engineering-Centric Framework for PCOS Classification Using Machine Learning

**Authors:** Mahmudul Haque Shakir, Sunipun Seemanta, Shovan Roy, Md. Saef Ullah Miah, M. Mostafizur Rahman, Kavikumar Jacob

**Presenter:** *Mahmudul Haque Shakir*

12:00 –  
12:15

**Paper ID: 2025051108**

**Paper title:** Transparent Decision Making in HCI Systems: An XAI Approach Integrating CNN Architectures with SHAP and LIME Explanations

**Authors:** Faizal Hajamohideen, Yasmeen Al Shehhi, Afaf Al Alawi

**Presenter:** *Yasmeen Al Shehhi*

12:15 –  
12:30

**Paper ID: 2025051098**

**Paper title:** Machine Learning in Data-Driven Predictive Policing: Canada Perspective

**Authors:** Meet Vishnubhai Adalaja, Md Zamilur Rahman, Khaleda Begum

**Presenter:** *Md Zamilur Rahman*

12:30 –  
12:45

**Paper ID: 2025051036**

**Paper title:** Interpretable Transfer Learning based Alzheimer's Disease Classification with LIME

**Authors:** Vimbi Viswan, Faizal Hajamohideen, Karthikeyan Supramanian, Ibrahim Al Shezawi, Noushath Shaffi, Mufti Mahmud

**Presenter:** *Vimbi Viswan*

12:45 –  
13:00

**Paper ID: 2025051073**

**Paper title:** TamViT: Vision Transformer Based Tamil Handwritten Character Recognition

**Authors:** Vimbi Viswan, Karthikeyan Subramanian, Faizal Hajamohideen, Kavitha B R, Noushath Shaffi

**Presenter:** *Noushath Shaffi*

**Chair:** *Prof Mufti Mahmud*, King Fahd University of Petroleum and Minerals, Saudi Arabia

**13:00 – 13:30 Closing Ceremony****Closing Ceremony, Awards, Next AII 2026 Announcement****13:00 – 13:10 AII 2025 Awards****13:10 – 13:15 Announcement of AII 2026****13:15 – 13:30 Closing Remarks****13:30 Close of Conference**