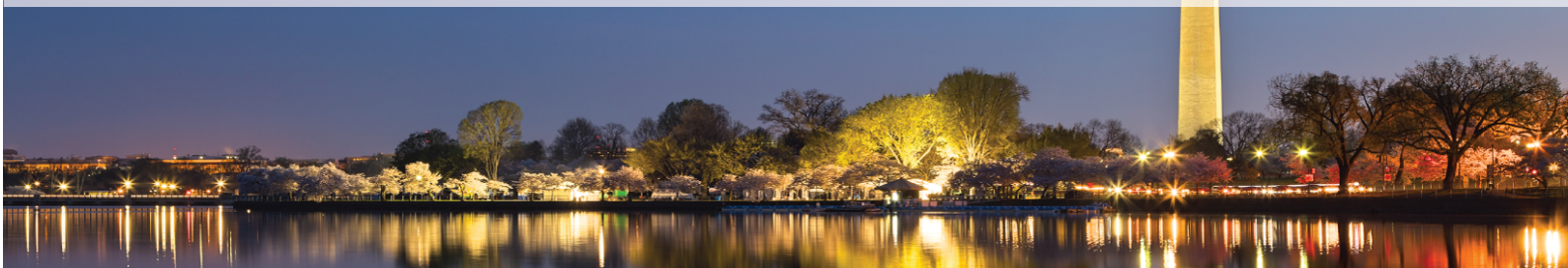




5TH INTERNATIONAL CONFERENCE ON APPLIED INTELLIGENCE AND INFORMATICS (AII 2025)

Fostering Reproducibility of Research Results

28 - 30 OCT 2025, WASHINGTON D.C., USA



5th International Conference on Applied Intelligence and Informatics (AII 2025)

Conference Programme Book

October 28-30, 2025

Hybrid (In-person and Online) Conference

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

Hosted by



Washington University
of Science and Technology

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Programme Snapshot

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

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

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		Registration and welcome networking
14:30 – 15:00		Conference Inauguration
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		All 2025 Banquet
21:30		Close of Day 1
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
11:00 – 11:15		Comfort Break
11:15 – 12:45	Technical Session II	Applied Intelligence II (Paper IDs: 2025051005, 2025051018, 2025051030, 2025051006, 2025051074, 2025051097)
12:45 – 14:00		Working Lunch
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)
15:30 – 15:45		Comfort Break
15:45 – 17:15	Technical Session V	Applied Informatics I (Paper IDs: 2025051007, 2025051011, 2025051056, 2025051026, 2025051051, 2025051052)
17:45		Close of Day 2
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		Closing Ceremony + Awards + Next All 2026 Announcement
13:30		Close of Conference

Zoom Meeting ID: 862 8215 7742, Passcode: AllConf

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

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 Ahmmed, Jannatun Naim Ema, Md Alamgir Kabir, Abu Zahid Md Jalal Uddin, Touhid Bhuiyan Presenter: Jalal Ahmmed
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

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

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, Debashis 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 Fairouz, Md. Mortuza Ahmmad, 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: AIJConf

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 Ahmmad, Kanad Ray, Abzetdin Adamov

Presenter: *Hasin Almas Sifat*

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

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

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 Ahmmad, 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*

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

16:45 – 17:00	<p>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: <i>Nehad Alnahari</i></p>
17:00 – 17:15	<p>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: <i>Md. Tofael Ahmed Bhuiyan</i></p>
17:45	<p>Close of Day 2</p>
<p>All times are in Washington, D.C., USA (EST, GMT-5)</p>	
<p>Day 03: Thursday, 30 October 2025</p>	
<p>09:00 – 10:00 Industry Session Zoom Meeting ID: 862 8215 7742; Meeting Passcode: AIIConf</p>	
09:00 – 10:00	<p>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</p>
10:00 – 10:30	<p>Invited Speaker: Mr Lisan Al Amin, Cognitive Links LLC, USA</p>
<p>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</p>	
10:30 – 10:45	<p>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: <i>Md. Sayem Kabir</i></p>
10:45 – 11:00	<p>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: <i>Muhammad Amin Nadim</i></p>
11:00 – 11:15	<p>Paper ID: 2025051038 Paper title: Tomato Disease Diagnosis with Self-Supervision for Class-Imbalanced Leaf Images Authors: Toaml 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: <i>Tomal Ahmed Pantho</i></p>
11:15 – 11:30	<p>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: <i>Nadim Ahmed</i></p>



11:30 – 11:45	<p>Paper ID: 2025051119</p> <p>Paper title: Predicting Cognitive Change Over Time: Feature Fusion of Spatial Navigation Metrics and EEG Data in Machine Learning Models</p> <p>Authors: Matthew C Harris, Mufti Mahmud, Mohammad Arifur Rahman, Pratik Vyas, Nicholas Shopland, Bonnie Connor, James Lewis, David J Brown</p> <p>Presenter: <i>Matthew C Harris</i></p>
11:45 – 12:00	<p>Paper ID: 2025051008</p> <p>Paper title: A Feature Engineering-Centric Framework for PCOS Classification Using Machine Learning</p> <p>Authors: Mahmudul Haque Shakir, Sunipun Seemanta, Shovan Roy, Md. Saef Ullah Miah, M. Mostafizur Rahman, Kavikumar Jacob</p> <p>Presenter: <i>Mahmudul Haque Shakir</i></p>
12:00 – 12:15	<p>Paper ID: 2025051108</p> <p>Paper title: Transparent Decision Making in HCI Systems: An XAI Approach Integrating CNN Architectures with SHAP and LIME Explanations</p> <p>Authors: Faizal Hajamohideen, Yasmeen Al Shehhi, Afaf Al Alawi</p> <p>Presenter: <i>Yasmeen Al Shehhi</i></p>
12:15 – 12:30	<p>Paper ID: 2025051098</p> <p>Paper title: Machine Learning in Data-Driven Predictive Policing: Canada Perspective</p> <p>Authors: Meet Vishnubhai Adalaja, Md Zamilur Rahman, Khaleda Begum</p> <p>Presenter: <i>Md Zamilur Rahman</i></p>
12:30 – 12:45	<p>Paper ID: 2025051036</p> <p>Paper title: Interpretable Transfer Learning based Alzheimer's Disease Classification with LIME</p> <p>Authors: Vimbi Viswan, Faizal Hajamohideen, Karthikeyan Supramanian, Ibrahim Al Shezawi, Noushath Shaffi, Mufti Mahmud</p> <p>Presenter: <i>Vimbi Viswan</i></p>
12:45 – 13:00	<p>Paper ID: 2025051073</p> <p>Paper title: TamViT: Vision Transformer Based Tamil Handwritten Character Recognition</p> <p>Authors: Vimbi Viswan, Karthikeyan Subramanian, Faizal Hajamohideen, Kavitha B R, Noushath Shaffi</p> <p>Presenter: <i>Noushath Shaffi</i></p>
<p>13:00 – 13:30 Closing Ceremony</p> <p>Closing Ceremony, Awards, Next All 2026 Announcement</p> <p>Chair: Prof Mufti Mahmud, King Fahd University of Petroleum and Minerals, Saudi Arabia</p>	
<p>13:00 – 13:10 All 2025 Awards</p>	
<p>13:10 – 13:15 Announcement of All 2026</p>	
<p>13:15 – 13:30 Closing Remarks</p>	
<p>13:30 Close of Conference</p>	