

12th International Conference on Next-generation computing, communication, Systems and Security (12th NSysS 2025)

Program

(All times are in Bangladesh Standard time (BST) - GMT+6:00)

NSysS Zoom Link: <https://bdren.zoom.us/j/97909622519>

Day 1: December 18, 2025, Thursday	
9:00 AM - 9:30 AM	Registration
9:30 AM - 9:45 AM	Welcome Session
9:45 AM – 10:45 AM	Keynote Talk: Security and Privacy for Extended Reality Systems: Attacks and threat models by <i>Nael B. Abu-Ghazaleh</i> , Professor of Computer Science and Engineering, University of California, Riverside, USA Session Chair: Israat Haque, Dalhousie University, Canada
10:45 AM – 11:45 AM	Keynote Talk: Network Digital Twins: from Theory to Practice by <i>Fabrizio Granelli</i> , Professor of Information Engineering and Computer Science University of Trento, Italy Session Chair: Mohammad Kaykobad, Brac University
11:45 AM – 12:00 PM	Tea break and networking
12:00 PM – 1:10 PM	Technical Paper Presentation Session: Security and Threat Intelligence Session Chair: A.K.M. Ashikur Rahman, Professor, BUET ➤ (Paper# 103) Md. Hasib Ur Rahman (BRAC University); Arittra Paul Ankur (BRAC University); Sadman Zahin (BRAC University); Mominul Hoque Fardin (BRAC University); Amitabha Chakrabarty (BRAC University); Swakkhar Shatabda (BRAC University). <i>Zero-Shot Detection of Jailbreaking Attempts in Large Language Models</i> (long paper) ➤ (Paper#112) Nirob Arefin (Bangladesh University of Engineering and Technology); A. B. M. Alim Al Islam (Bangladesh University of Engineering and Technology). <i>DoT: Degradation of Throughput Induced by Adversarial Nodes in Terahertz Communication Networks</i> (long paper) ➤ (Paper# 46) Alif Rahman (BRAC University); Abdul Khalek Alve (BRAC University); Sazzad Hossen Himel (BRAC University); Saadman Zaman (BRAC University); Muhammad Iqbal Hossain (BRAC University). <i>Enhancing Multi-Class Malware Detection in Resource-Constrained Computing Environments</i> (short paper) ➤ (Paper# 85) Shamik Dey (Ahsanullah University of Science and Technology); Adnan Quaium (Ahsanullah University of Science and Technology). <i>Leakage-Safe Multi-View Graph Construction for Robust Intrusion Detection in Edge-IIoT Systems</i> (short paper) ➤ (Paper# 88) Md Fahim Al Shihab (American International University-Bangladesh); MD Momrul Hasan (Dhaka International University); Ragib Nadim (American International University-Bangladesh); Mihir Bormon (Bangladesh University of Professionals); Sabbir Ahmed Al Seum (American International

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	University-Bangladesh). <i>Fingerprinting Malware Behavior Through Deep Learning-Based Sequence Modeling</i> (short paper)
1:10 PM - 2:45 PM	Prayer break, lunch, and networking
2:45 PM - 3:40 PM	<p>Technical Paper Presentation Session: Vision and Robust Recognition Systems Session Chair: Muhammad Masroor Ali, BUET</p> <p>➤ (Paper# 64) Mst. Fahmida Naznin (BUET); Arnab Dey (BUET); Debojit Pandit (BUET); Ahanaf Ferdous (Brac); Rakib Islam (Tirzok Private Limited); Hasan Ibna Akbar (Tirzok Private Limited); Dr. Jannatun Noor Mukta (UIU); Dr. A. B. M. Alim Al Islam (BUET). <i>Seg2Reg-Net: An Explainable AI Analysis of Predictive Limitations in Cattle Weight Estimation</i> (long paper)</p> <p>➤ (Paper# 83) K M Asifur Rahman (BUET); Md. Faizul Bari (Spectrum Software and Consulting Pvt. Ltd.); A. B. M. Alim Al Islam (BUET). <i>Bypassing Conventional eKYC: Evaluating the Limits of Deepfake-Driven Identity Subversion</i> (long paper)</p> <p>➤ (Paper# 116) A H M Fuad (BUET); Risalat Labib (BUET). <i>From Image Resizing to Adaptive Pipeline: Improving Visual Place Recognition Without Re-Training</i> (short paper)</p> <p>➤ (Paper# 20) Sadman Nasif (BUET); Nahid Sanzida (BUET). <i>A Heuristic Modular Spectral Synthesis Engine for Generating Annotated UV-Vis Datasets</i> (short paper)</p>
3:40 PM - 4:15 PM	Prayer break, snacks, and networking
4:15 PM - 5:00 PM	<p>Technical Paper Presentation Session: HCI and Multilingual AI Session Chair: Tanzima Hashem, BUET</p> <p>➤ (Paper# 57) Muhammad Hassan Bin Afzal (Jahangirnagar University). <i>From Connectivity to Care: How Digital Inclusion Shapes Women’s Healthcare Decision-Making in Bangladesh</i> (long paper)</p> <p>➤ (Paper# 65) Md.Hamid Hosen (East Delta University); Yashfinul Haque (North South University); Dipannita Chakrobortty Nijhum (Southeast University); Mohammed Nazim Uddin (East Delta University). <i>XLM-RoBERTa-LIME: An Explainable Framework for Sentiment Analysis on Bangla–English–Hindi Code-Mixed Text</i> (long paper)</p> <p>➤ (Paper# 119) Afsarul Amin Bhuiyan (Stamford University Bangladesh); Ahmed Shafi Arnob (Stamford University Bangladesh); Tamanna Haque Nipa (BUET); Rahad Hussian (BRAC University); A. B. M. Alim Al Islam (BUET). <i>Leveraging Morphology for ML-Based Classification of Genre in Bangla Literature</i> (short paper)</p>
5:00 PM - 5:45 PM	Prayer break
5:45 PM - 6:15 PM	Business Meeting
6:30 PM - 7:30 PM	<p>Keynote Talk: In-Network and Hardware-Accelerated Security for Modern Networks by <i>Israat Haque</i>, Associate Professor of Computer Science, Dalhousie University, Canada</p>

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	<p>Session Chair: Muhammad Abdullah Adanan, BUET</p>
7:30 PM - 8:30 PM	<p>Keynote Talk: Evaluating 5G Performance in the Wild by <i>Dimitrios Koutsonikolas</i>, Associate Professor of Electrical and Computer Engineering, Northeastern University, USA</p> <p>Session Chair: Mahmuda Naznin, BUET</p>
Day 2: December 19, 2025, Friday	
9:00 AM – 10:00 AM	<p>Keynote Talk: Possible at Last: Using Vision-Language Models to Evaluate and Secure Mixed Reality Experiences by <i>Maria Gorlatova</i>, Associate Professor of Electrical & Computer Engineering, Duke University, USA</p> <p>Session Chair: A. B. M. Alim Al Islam, BUET</p>
10:00 AM – 11:00 AM	<p>Keynote Talk: Generative AI for Social Good, Including Cybersecurity by <i>Latifur Khan</i>, Professor of Computer Science, University of Texas at Dallas, USA</p> <p>Session Chair: Mohammed Eunus Ali, BUET</p>
11:00 AM – 12:10 PM	<p>Technical Paper Presentation Session: Explainable ML and Computational Health Analytics</p> <p>Session Chair: Ch. Md. Rakin Haider, BUET</p> <ul style="list-style-type: none"> ➤ (Paper# 47) Soily Ghosh Sneha (American International University); Md Tanzeem Rahat (American International University); Md. Manzurul Hasan (American International University). <i>ChainGraph-DL: Data-Driven Causal Inference for Graph Structure Learning</i> (long paper) ➤ (Paper# 62) Avishek Biswas (CUET); Prashanta Pal (CUET); Shawon Bhattacharjee (CUET); Shuvro Debnath (CUET); Shafqat Nawaz Chowdhury (CUET); Rahul Saha (CUET). <i>An Explainable AI Framework for Parkinson’s Disease Prediction Using XGBoost, SHAP, and Large Language Model Integration</i> (long paper) ➤ (Paper# 114) Asif Ihtemadul Haque (BUET); Shamim-Al Mamun (BUET); Sanjana Binte Siraj (Bangladesh University of Engineering and Technology); Tanvir Rahman Faisal (University of Louisiana at Lafayette); Mahmuda Naznin (BUET). <i>Leveraging Quantitative Analysis for Severity Assessment of Knee Osteoarthritis</i> (long paper) ➤ (Paper# 79) Ahnaf Tahmid (BRAC University); Nafis Mohammad (BRAC University); Rafsan Zamil (BRAC University); Md. Muhimenul Mubin (BRAC University); Md. Farhadul Islam (BRAC University); JANNATUN NOOR MUKTA (United International University). <i>Analyzing Neural Network Models for Detecting Panic Attacks Using Monte Carlo Dropout</i> (short paper) ➤ (Paper# 115) Mohammad Abu Obaida Mullick (United International University); Abu Henaf Rashid Ahmad Mufti (United International University); Rezaur Rahman Ratul (United International University); Jannatul Noor (United International University). <i>An Explainable and Scalable Framework for Compost Maturity Prediction via Ensemble Learning and Conversational AI</i> (short paper)
12:10 PM - 2:30 PM	<p>Prayer break, lunch, and networking</p>

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2:30 PM – 3:25 PM	<p>Technical Paper Presentation Session: System Engineering and Quantum Security</p> <p>Session Chair: Abu Wasif, BUET</p> <ul style="list-style-type: none">➤ (Paper# 70) Jerin Anan Proma (EWU); Fatema Tuz Zannat (EWU); Mohammed Shawqi Aftab (EWU); Tahura Akter Tripty (EWU); M. Saddam Hossain Khan (EWU); Raihan Ul Islam (EWU); Rashedul Amin Tuhin (EWU). <i>Energy-Efficient Web Design: Measuring Impact of Front-End Optimizations</i> (long paper)➤ (Paper# 73) Tahmid Noor Rahman (BRAC University). <i>Design of a USB RAID Controller for ARM SBC Cluster Server</i> (long paper)➤ (Paper# 53) Ratul Hasan (Bangladesh Army University of Engineering & Technology); Md. Momenul Haque (Bangladesh Army University of Engineering & Technology); Redoanul Haque (Bangladesh Army University of Engineering & Technology); Yousuf Oley (Bangladesh Army University of Engineering & Technology); Ruhani Akter (Bangladesh Army University of Engineering & Technology). <i>Quantum-Resistant FOTA: End-to-End Decentralized Firmware Updates for IoT Using Blockchain and CRYSTALS-Dilithium</i> (short paper)➤ (Paper# 78) Tawkir Rahman (BUET); Masnoon Muztahid (BUET); Dipanta Kumar Roy Nobo (BUET); Sheikh Azizul Hakim (BUET). <i>AmarVote: A Web-Based ElectionGuard System with Post-Quantum Guardian Key Protection and Blockchain Auditing</i> (short paper)
3:30 PM – 3:55 PM	<p>Students’ Poster Presentation (3-minute oral presentation per poster)</p> <p>Moderator: A.K.M. Mehedi Hasan, BUET</p>
3:55 PM – 4:15 PM	<p>Prayer break, snacks, and networking</p>
4:15 PM – 5:00 PM	<p>Students’ Poster Presentation (3-minute oral presentation per poster)</p> <p>[continued]</p>
5:00 PM - 5:45 PM	<p>Prayer break</p>
5:45 PM – 6:00 PM	<p>Students’ Poster Presentation (3-minute oral presentation per poster)</p> <p>[continued]</p>
6:00 PM – 7:00 PM	<p>Industry Session</p> <p>Moderator: Sheikh Azizul Hakim, BUET</p>
7:00 PM - 7:30 PM	<p>Closing Session and Award Giving Ceremony</p>
7:30 PM - 8:30 PM	<p>Banquette Dinner</p>
Day 3: December 20, 2025, Saturday	
Conference Tour	