IEEE International Conference on Computational Intelligence, Security, and Artificial Intelligence

(IEEE-IntelliSecAI 2025)

17-18 December,2025

Opening Ceremony, Lecture Hall

Activities	Timing	Details
Conference Registration	9:30 – 10:00	COBA Atrium
Welcome Address	10:05 – 10:15	**Dr. Faisal Yousif Al Anezi,** Conference Chair
Keynote Address	10:15 – 10:30	**Dr. Ghassen Ben Brahim,** Conference Deputy Chair
Keynote Speech –1	10:30 – 11:00	**Dr. Robertas Damasevicius,** Professor Vytautas Magnus University, Lithuania Topic: Recent Advances in AI-Enabled Neurodegenerative Diseases
Keynote Speech –2	11:00 – 11:30	**Prof. Muhammad Khurram Khan**, King Saud University, Saudi Arabia Topic: Next-Generation Cybersecurity: Emerging Threats, Intelligent Defenses, and Strategic Research Frontiers
Panel Discussion	11:30 – 12:00	**Dr. Robertas Damasevicius**, Professor Vytautas Magnus University, Lithuania **Prof. Muhammad Khurram Khan**, King Saud University, Saudi Arabia **Dr. Muhammad Attique Khan**, Prince Mohammad Bin Fahd University, Saudi Arabia **Dr. Sawsan Abdulrahman**, Moderator, Prince Mohammad Bin Fahd University, Saudi Arabia
Break & Refreshments	12:00 – 13:00	PMU Atrium –Main Auditorium
Keynote Speech –3	13:00 – 13:40	**Dr. Gautam Srivastava,** Brandon University, Canada Topic: Federated Learning for Data Privacy

Scope of the Conference

IEEE-IntelliSecAI 2025 focuses on the convergence of computational intelligence, cybersecurity, and artificial intelligence to address global challenges and foster innovation. It offers a platform for researchers and industry experts to present advancements in machine learning for healthcare, finance, and public safety. Key topics include cybersecurity solutions using blockchain and IoT, and AI applications in smart cities. This event encourages cross-disciplinary collaboration to drive impactful, secure, and intelligent technologies.

TOPICS OF INTEREST

Authors are solicited to contribute to the conference by submitting articles that illustrate research results, project outputs, and industrial experiences that describe significant advances in Computational Intelligence, Security, and Artificial Intelligence.

Topics of Interest

Computational Intelligence

- Algorithms and methodologies in computational intelligence
- Machine learning and deep learning applications
- Fuzzy logic, evolutionary computing, and hybrid systems

Artificial Intelligence

- AI-driven solutions for smart cities and urban management
- Natural language processing and computer vision
- AI applications in healthcare, finance, and public safet

Cybersecurity

- Threat detection, prevention, and response mechanisms
- Secure architectures for the Internet of Things (IoT)
- Blockchain technology applications in security

Topics of Interest

Smart Cities

- Smart transportation systems and mobility solutions
- Renewable energy management and environmental sustainability
- Disaster management and community engagement through technology

Business Intelligence

- AI and Machine Learning for Business Analytics
- Data Integration and Real-Time Visualization
- AI applications in smart city verticals.

Emerging Technologies

- Innovations in edge computing and cloud computing
- Cyber-physical systems and autonomous systems
- Data analytics and big data applications in security and AI

IEEE-IntelliSecAI 2025
Honorary Conference Chair

Dr. Issa H. Al Ansari
Honorary Conference Chair

President, Prince Mohammad Bin Fahd University
Al Khobar, Kingdom of Saudi Arabia

Keynote Speakers

Dr. Robertas Damasevicius
Keynote Speaker
Vytautas Magnus University, Lithuania

Talk Title:
Recent Advances in AI-Enabled
Neurodegenerative Diseases

Dr. Gautam Srivastava
Keynote Speaker
Brandon University, Canada

Talk Title:
Federated Learning for Data Privacy

Prof. Muhammad Khurram Khan
Keynote Speaker
King Saud University, Saudi Arabia

Talk Title:
Next-Generation Cybersecurity: Emerging
Threats, Intelligent Defenses, and
Strategic Research Frontiers

Conference Committee Chairs

Dr. Sagheer Abbas
Chair, Technical Committee
Prince Mohammad Bin Fahd University,
Al Khobar, KSA.

Dr. Zaher Ibrahim Saleh
Chair, Publication Committee
Prince Mohammad Bin Fahd University,
Al Khobar, KSA.

Dr. Majid Ali Khan
Chair, Steering
Committee
Prince Mohammad Bin Fahd University,
Al Khobar, KSA.

BREAK & REFRESHMENTS

Time: 12:00 – 13:00

Location: PMU Atrium – Main Auditorium

Day – 1

Dr. Jawad Ahmad
Session Chair
Time: 14:00 – 15:30
Location: COBA –G027

Session-1(In-Person)

Link

PaperID:64
Harriet Farlow, Matthew Garratt, Gavin Mount and Timothy Lynar - Quantifying AI Security Coverage: A Metric-Based Evaluation Across Five Governance Frameworks

PaperID:92
Sara Afzal, Farrukh Aslam Khan, Abraham Gebrehiwot and Filippo Maria Lauria - Attacker-Aware Contrastive Learning for Robust Malicious URL Classification

PaperID:72
Walid Merrouche, Hegazy Rezk, Mahmoud S. Abouomar and Badis Lekouaghet - Bio-Inspired Calibration of the Self-Correcting Battery Model as the Core of Digital Twin Framework

PaperID:94
Ayaan Nisar and Pranav Kulkarni - Attention-Augmented 3D CNNs with Self-Supervision for Lung Nodule Detection

PaperID:95
Amgad A. Salama, Syed Tariq Shah, Insaf Ullah, Ahmed Gamal Abdellatif and Mahmoud A. Shawky - Compressed Sensing for High-Speed Maneuvering Radar Targets: A Fundamental Analysis

PaperID:109
Jason Idriss Sparkes - What Remains of the Human in the Age of AI and Other Disruptive Technologies?

Day – 1

Dr. Abul Bashar
Session Chair
Time: 14:00 – 15:30
Location: COBA –G028

Session-2(In-Person)

Link

PaperID:106

Hussein Alkatout, Saad Houda and Taha Houda - Comprehensive Evaluation of 14 Pretrained Deep Learning Models for MRI Brain Cancer Classification

PaperID:110

Rahaf Alayed and Fatima Asiri - AI-Powered Privacy Risk Assessment

PaperID:127

Ahmed Mohamed Ahmed Mohamed and Mohamed Mejri - AI-Driven Cybersecurity Awareness Training (CSAT) Framework

PaperID:205

Meshari Almutlaq, Abdulaziz Al-Alabbad and Feroz Shaik - Ethical AI Frameworks for Sustainable Clean Energy Integration: Challenges and Pathways

PaperID:51

Udit Mamodiya, Indra Kishor, Nivine Guler, Jamaluddin Hindi and Nithesh Naik - Implementation of Reinforcement Learning Environment for Hybrid Renewable Energy Systems

Day – 1

Dr. Sawsan Abdulrahman
Session Chair
Time: 14:00 – 16:00
Location: COBA –G029

Session-3(Online)
Link

PaperID:1
Aryan Phalke, Chittosh Meshram, Krishna Gupta and Dr. Chudaman Sukte - DEEPFAKE
DETECTION WITH XCEPTIONNET: A DEEP LEARNING APPROACH

PaperID:2
Dhirman Sachar - Auditing Challenges in the Cryptoasset Industry

PaperID:12
Akash Kota Raju - Beat the Machine: A Gamified Approach to Identifying Systematic
Errors in Predictive Models

PaperID:30
Linah Alakwaa, Raghad Alhashmi and Shahad Alhothli - A Systematic Review of
Chatbot Development: Technological Advancements, Applications, and Quality
Attributes

PaperID:68
Tania Kapoor, Inas Al-Taie, Rahmat Ullah, Muhammad Tariq Sadiq, Arwa Mohmmed
Basbrain and Rab Nawaz - MindGauge: A GUI-based Machine Learning Tool for EEG
Workload Classification

PaperID:43
Hyndav Yogi Kakani - Leveraging Near-Data Computing: Architectural Innovations and
Energy-Efficient Optimization for Data-Intensive Applications

PaperID:44
Ahmed Sarwar Mohammed - Economic Dynamics: Bounded Consumption Rule Data
Structures

PaperID:54
 Inzamam Mashood Nasir, Sara Tehsin, Robertas Damaševičius, Nazar Hussain,
Muhammad Abdullah Bilal and Rytis Maskeliūnas - Heuristic-Inspired Percentage
Attribution Index: A Novel Measure for Explainability in Skin Cancer Classification

PaperID:55
Sara Tehsin, Inzamam Mashood Nasir, Robertas Damasevicius, Nazar Hussain,
Muhammad Abdullah Bilal and Rytis Maskeliūnas - NeuroMamba: Efficient State-Space
Model for Explainable Brain Tumor Segmentation

PaperID:66
Atta Rahman, Sania Ali and Pir Noman Ahmad - Fully Convolutional Network-Based
Semantic Segmentation for Driverless Car Applications

PaperID:59
Irfan Sadiq Rahat - Deep Learning-Based Multi-Class Brain Tumor Classification from
MRI Using a Novel MS-DSCCNet Architecture

DINNER

Time: 17:00 – 18:30

Location: PMU Cafeteria

Day – 2

Dr. Maen Hammad
Session Chair
Time: 10:00 –12:00
Location: COBA –G027

Session-4(Online)
Link

PaperID:73
Haoyuan Deng and Takyiu Liu - The Design and Construction of a Drone-to-Drone Battery Swapping System

PaperID:74
Indragandhi V, Nagarajan Munusamy, Ashok B and Subramaniyaswamy V - Performance Enhancement of a Bidirectional V2G Systems using Multi-Objective PSO Framework with PI Controller Design

PaperID:75
Muhammad Imran - Architecting Trust: A Framework for Secure IoT Systems Through Trusted Execution and Semantic Middleware

PaperID:77
Zobia Erum and Laurentiu Nae - Securing Blockchain-Linked QR Codes Against Phishing and Spoofing in Digital Credential Systems

PaperID:78
Sangeeta Singh, Chandra Sekhar Kubam and Varun Malik - A Bio-Inspired Deep Learning Intrusion Detection Framework for Cyber-Physical System Security

PaperID:79
Pavan Nutalapati, Geol Gladson Battu, Rajeev Agarwal, Venkata Sai Nageen Kanikanti and Varun Malik - Atomic Orbital Search with Convolutional Neural Network Based Cloud Assisted Centralized Prediction Model for Enterprise Financial Risks

PaperID:80
Divyaraj Singh Jatav, Suchithpal Reddy Lankala, Ashish Kumar, Sesha Sai Sravanthi Valiveti and Varun Malik - Cloud-Powered Financial Stress Testing Using Deep Learning on Large-Scale Market Data

PaperID:81
Mahatma Reddy Marri, Sai Bhuvana Kurada, Shweta Gupta, Saswata Dey and Varun Malik - Graph-based deep learning model for identifying cyber threats in cloud platforms

PaperID:82
Faneela Faneela, Baraq Ghaleb, Jawad Ahmad, Bill Buchanan and Sana Ullah Jan - Privacy-Preserving Credit Card Approval Using Homomorphic SVM: Toward Secure Inference in FinTech Applications

PaperID:83
Vineet Channe, Sudhir Dhage, Paarth Bahety and Prasad Chopade - Systematic Evaluation of CNN-Transformer Hybrid Architectures for Multi-Class Waste Classification

PaperID:84
Nadeem Qazi, Nabeela Berardinelli and Mustansar Ghazanfar - GhostNet–ConvNeXt: An Explainable Multi Model Framework for Cancer Detection

PaperID:85
Mujeeb Ur Rehman, Menahil Khawar, Sohail Khalid, Farhan Ullah, Mohammed Adel R. Alkhulaiteet and Imran Baig - Detecting Mental Health Conditions from Reddit Posts Using Machine Learning

Day – 2

Dr. Marius Nagy
Session Chair
Time: 10:00 –12:00
Location: COBA –G028

Session-5(Online)

Link

PaperID:88

Amay Annasamudram and Pranav Kulkarni - Radiomics-Driven Classification of Lung Cancer Subtypes Using Ensemble Machine Learning

PaperID:90

Safar Albaqami, Maziar Nekovee and Imran Khan - Exploring Blockchain Adoption and Cybersecurity Practices in Saudi Startups : A Cross-Case Thematic Analysis with Sunrise Visualizations

PaperID:172

Sakshi Pandey, Harsimrat Kandhari, Syed Rashid Anwar, Manju Bargavi S K, Dibya Ranjan Das Adhikary and L.Jegan Antony Marcilin - Supply Chain Resilient Security for Industrial 4.0 Using AI-Based and Digital Twin Anomaly Detection

PaperID:96

Amna Bamaqa - Towards Trustworthy AI in Radiology: Interpretable Breast Cancer Detection Using EVA-02 and Class Activation Mapping

PaperID:97

Léa Astrid Kenmogne and Stéphane Mocanu - An Explainable Approach to Process-Oriented Attacks in Industrial Control Systems using SHAP and LIME

PaperID:98

Nida Nida, Hana Mohammed Alharthi, Marwan Jabr Alwazzeh, Irfan Ullah Khan, Fatima Nabih Alshakhs, Lolwa Saad, Alrajeh, Hanan Hamad Alduailej, Aisha Alansari, Rawaa Alturaif and Asma Bashamakh - Explainable AdaBoost model for the early prediction of Covid-19 mortality

PaperID:101

Belinda I Onyeashie, Mwrwan Abubakar, Petra Leimich, Sean McKeown and Gordon Russell - Non-Invasive Screen Attribution System Using DXGI Desktop Duplication and Overlay Watermarking

PaperID:107

Manar Abusirdaneh and Osman Abul - Predicting Martian Ionospheric Electron Density Using Distributed Gradient Boosting and Big Data Frameworks

PaperID:197

Shahadat Hossain, Asif Iqbal - Integrated Privacy and Data Integrity Framework for IoT and Enterprise Systems to Enhance Secure Supply Chain Operations through Federated Analytics and Differential Privacy

PaperID:124

Sampreeth Addakula, Anand Subramanian and Prabhu Kavin Balasubramanian - ViewState Deserialization Exploits and Transformer-Based Detection: A Case Study of CVE-2025-53690 in Sitecore CMS

PaperID:125

Thoufeeq Ahamed, Akash Saminathan and Prabhu Kavin Balasubramanian - Supply chain attacks in cloud native web applications

PaperID:135

Golusu Sri Harshak, Praneeth Kasiraju and Prabhu Kavin Balasubramanian - PCSM: Provably Consistent State Machines to Prevent State Desynchronization Exploits in DeFi Protocols

Day – 2

Dr. Zaher Ibrahim Saleh
Session Chair
Time: 10:00 –12:00
Location: COBA –G029

Session-6(Online)

Link

PaperID:145
Praneeth Kasiraju, Sri Harshak Golusu and Prabhu Kavin Balasubramanian - Making Zero-Days Hard: A Deployment-Oriented Review of Preventive Defences

PaperID:147
Umesh Daivagna, Ganesh D, Trilochan Tarai, Chinnaswamy Vinodhini, Dukhbhanjan Singh and Siraj Ahmed S - Classifying Driver Sleepiness Expressions using Machine Learning Technique

PaperID:152
Haripriya V, Sunita Samanta, L Lakshmanan, Sachin Mittal, Jatin Khurana and Arvind Kumar Pandey - E-Governance Secure System Based on Blockchain for Protecting Privacy in. Data Using Federated Learning

PaperID:153
Astik Kumar Pradhan, Gyana Ranjan Patra, Abhiraj Malhotra, Ganesh D, Emalda Roslin S and Bharat Bhushan - Agriculture Enabled by the Internet of Things for Predicting Crop Yield with Deep Learning

PaperID:157
Sana Hafeez, Ghulam E Mustafa Abro and Hifza Mustafa - Quantum-Resilient Threat Modelling for Secure RIS-Assisted ISAC in 6G UAV Corridors

PaperID:159
Avni Garg, Nipun Setia, S.Arul Antran Vijay, Dinesh Goyal, N. V. Balaji and Krishna Reddy B N - Leveraging Soft Computing for Healthcare Impact on Features Support and Functionality

PaperID:176
Shatha Alsaedi - Towards High-Performance, Explainable Vision Transformer for Robust Multi-Class Brain Tumor Classification on a Unified Global MRI Dataset

PaperID:204
Md Akhtaruzzaman, Maruf Ahmad - Adversarially Robust and Explainable AI Systems for High-Risk Clinical Decision Support with IoT-Integrated Health Monitoring

PaperID:211
Nukul Jain, Sunil Kumar and Balasubramanian Prabhu Kavin - Anatomy of a National Crisis: A Post-Mortem of the 2024 Change Healthcare Ransomware Attack

PaperID:220
Syeda Shaima Sani, Sohail Khalid, Muhammad Rafiq and Mujeeb Ur Rehman - Spectrogram-Based Deep Learning Model for Efficient Real-Time Waste Material Classification

PaperID:154
Ashmeet Kaur, Debanjan Ghosh, Ramkumar Krishnamoorthy, Susmita Panda, Ramya G Franklin and Amanveer Singh - Detecting Cybersecurity Threats Using the Graph Neural Network in Smart Network Grid

LUNCH

Time: 13:00 – 14:00

Location: PMU Cafeteria

Day – 2

Dr.Vinayakumar Ravi
Session Chair
Time: 14:00 – 16:00
Location: COBA –G027

Session-7(Online)
Link

PaperID:193
Akash Saminathan, Thoufeeq Ahamed and Balasubramanian Prabhu Kavin, Securing Cloud Applications Against Supply Chain Attacks

PaperID:166
Antony Allwyn Sundarraj, Lakshya Swarup, V.P. Arul Kumar,Sanjay Bhatnagar, S. Hemelatha and Saritha Srinivasmurthy Raghotham, Examining Big Data's Role in Shaping Monitoring Practices in the Age of Data Policing

PaperID:181
J Jayaprabakar, Umesh Daivagna, Ravi V Angadi, Byomakesh Dash, Manivasagam G and Prabhjot Kaur, Intelligent Photovoltaic Array Fault Detection Mechanism in Dynamic Environmental Conditions

PaperID:130
Varsha Agarwal, Sasmita Pattnaik, Siddharth Sriram, Gongadi Hampamma, Logeswari Logeswari and Princy A.S, Investigating the Effect of Leadership Styles on Enhancing Employee Engagement and Performance

PaperID:224
Shahid Iqbal, Bilal Shoaib and Abdul Hannan - Comparative Analysis Of Supervised Machine Learning Classifers For Intrusion Detection On Heterogeneous Datasets

PaperID:175
Jaspreet Sidhu, V Sivachidambaranathan, Kunal Meher, Vesapogu Joshi Manohar, Amiya Kumar Naik and Vinoth R, Advanced Multi-Objective Control Strategy for Precision Torque Management in Brushless DC Motors

PaperID:184
Mrutunjay Dash, Jamuna K.V, Akhilesh Kalia, L Lakshmi, Mohamed Jaffar A and Abhishek Singla, Evaluating Parental Awareness of Paracetamol Dosage Guidelines and the Risk of Toxicity in Pediatric Populations

PaperID:185
Akhila R Udupa, Manas Kumar Mallick, Raghavendra R, Pratibha Sharma, T Anandhi and Varsha Agarwal, Revolutionizing Online Advertising Strategies Using Product-Based Recommendation Systems

PaperID:167
Narendra B Mustare, Madhur Taneja, C Karthikeyan, Prakhar Goyal, N Thangarasu and Anila Bajpai, Enhancing Vehicle-to-Vehicle Communication and Transport Management with lifi

PaperID:219
Muhammad Waqas, Shakir M. Usman, Muhammad Hassan Ghulam, Muhammad, Shan Khan and Areej Fatima - Ensuring Transparency and Accountability in Vehicular-to-Vehicular (V2V) Communication for Autonomous Vehicles

Day – 2

Dr. Farhan Ullah
Session Chair
Time: 14:00 – 16:00
Location: COBA –G028

Session-8(Online)
Link

PaperID:138
Shanmugapandian Shanmugapandian, Naresh Kaushik, Lovish Dhingra, Snigdha Pattnaik, Prerna Mahajan and Jaskirat Singh, Pharmacists' Perceptions of Mobile Applications for Drug Information: An Evaluation of Usage and Effectiveness

PaperID:131
R Blessie Pathmu, Thammineni Naresh Naidu, Logeswari Logeswari, Varsha Agarwal, Ayasa Kanta Mohanty and Sahil Suri, The Interplay of Job Stress and Employee Productivity: Approaches for Improving Workplace Efficiency

PaperID:155
Danish Kundra, Jagtej Singh, Syed Rashid Anwar, Raghavendra R, Subhaluxmi Sahoo and Joany R.M, Drone Autonomous Navigation for Response to Disaster Using the Techniques of Swarm Intelligence

PaperID:165
Praveen Kumar Balguri, Amanveer Singh, P. Jeevananthan, Ayaan Faiz, V.J. Vijayalakshmi and Hannah Jessie Rani R, Examining the Role of Low Heat and Nanoparticles in Electronics Trees within Draft Silicone Rubber

PaperID:202
Md Golam Sarwar and Md Risalat Hossain Ontor - Novel Privacy-Preserving AI Framework for Trustworthy Analytics in Enterprises and Smart Homes Aligned with NIST AI Risk Management

PaperID:13
Akash Kota Raju, Enhancing EnergyPlus Simulation Capabilities through Extended API Integration

PaperID:146
Ashwika Rathore, G. Raja Lakshmi, Aakash Sharma, Dornadhula Dhanya, Kunal Meher and Febin Prakash, An Automatic Face Mask Detection System using Artificial Intelligence

PaperID:173
A.C Santha Sheela, Pooja Sharma, Prateek Aggarwal, Ashutosh Roy, Kannagi Anbazhagan and Narayan Patra, Identity Management Based on Blockchain UsingZero-Knowledge Proof Authentication for E-Governance

PaperID:174
Ashwini Kumar, Ganesh D, Sreyansu Satya Prakash, R Padmapriya, Nishant Bhardwaj and Jagmeet Sohal, Novel Mathematical framework for addressing torsional effect in reinforced concrete structures

PaperID:203
Uman Ahmed Mohammed - Behavioral Profiling–Driven Zero-Trust Security Framework for Smart City IoT Ecosystems

Day – 2

Dr. Sagheer Abbas
Session Chair
Time: 14:00 – 16:00
Location: COBA –G029

Session-9(Online)
Link

PaperID:182

Naresh Kaushik, Soumya Surath Panda, Pavas Saini, Sourav Rampal, Renukajyothi S and K Nithyakalyani, Evaluating the Effectiveness of Integrative Pharmacological Therapies on Chemotherapy Outcomes in Cancer Care

PaperID:134

Prerna Prerna, Sukhman Ghumman, Joyce R, Varsha Agarwal, Shaik Fakruddin Ali Ahmed and Manoranjan Dash, The Role of Compensation and Benefits in Employee Retention: A Study in the Technology Sector

PaperID:161

Pratibha Sharma, Hitesh Kalra, T Yawanikha, Shitij Goyal, S. Hemelatha and Megha Prem Kukreja, The Role of IoT in Transforming the Hotel Industry

PaperID:164

Praveen Kumar Balguri, Ashu Katyal, G.Arun Francis, Danish Kundra, V.J. Vijayalakshmi and Preetham K, Exploring the Interaction of Fluid and Solid Properties in Electrical Tree Behaviour within Silicon Gel

PaperID:200

Vincent Koc - Human-in-the-Loop Evaluation Pipelines for Production LLM System

PaperID:136

Sagar Gulati, Madhur Taneja, Rekha Chakravarthi, Varsha Agarwal, Senthil Kumar R and Santanu Kumar Sahoo, Impact of Digitalization on Reducing Medication Prescription Errors in Critical Care Environments

PaperID:137

Saumendra Ku. Mohanty, Raghu N, Ansh Kataria, V.J.K.Kishore Sonti, Kunal Meher and Varalakshmi Dandu, Investigating the Impact of Medical Knowledge on Self-Medication Practices Among Non-Medical Students

PaperID:133

Suhas Gupta, Gananath Khilla, Varsha Agarwal, Yallati Venkata Rangaiah, Duryodhan Jena and Banu Priya, A Comprehensive Analysis of Environmental Factors and Their Impact on Employee Performance

PaperID:201

Tanvir Ahmed Shuvo, Md Risalat Hossain Ontor - A Synergistic Approach to Secure and Privacy-Preserving Machine Learning Pipelines for Real-Time Anomaly Detection Systems in U.S. Critical Infrastructure

PaperID:198

Maruf Ahmad - Integrated Federated Multimodal AI for Early Cancer Detection Using Radiology, Pathology, and Genomic Signals

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