

ORGANIZER:



CO-ORGANIZER:



NEXT-

INTERNATIONAL CONFERENCE ON

NEXT - GENERATION DIGITAL TECHNOLOGIES

| 2026

12-14 September 2026

Universitas Muhammadiyah Sumatera Utara,
Medan, Indonesia

CONFERENCE AGENDA

Date: 12 September 2026 (Saturday)

Venue: Auditorium Universitas Muhammadiyah Sumatera Utara,
(UMSU) Medan, Indonesia

DAY 1

Time	Activity
8.00 – 8.30	Registration
8.30 – 9.00	Opening Ceremony
9.00 – 10.00	Keynote Speaker I Prof. Dr. Agussani, M.A.P <i>Title of Keynote: Digital Transformation in Higher Education: The Role of Adaptive Leadership in Integrating Artificial Intelligence in the Era of Next-Generation Digital Technologies</i>
10.00 - 10.15	Refreshment
10.15 – 11.15	Keynote Speaker III Assoc. Prof. Dr. Rabiah Abdul Kadir <i>Title of Keynote: AI's Real-World Impact: Research Stories That Shaped My View of AI's Future</i>
11.15-12.15	Keynote Speaker III Dr. Mutiawati, S.Pd., M.Pd <i>Title of Keynote: Design and Development of the RumohTIKA -AI Application Using VR Headsets to Improve Mathematics Literacy and Learning Behavior</i>
12.15 - 12.45	Industry Talk I Mr. James Lim Chee Keon (Strateg Sdn Bhd) <i>Title of Industry: Industry Sovereign AI uptake: How does this pivots academics</i>
12.45 - 13.15	Industry Talk II Mr. Hwansoo Jung BioGET Inc. (Bio & Green Energy Technology, Biochar Production & Development) <i>Title of Industry: From Measurement to Field Intelligence: NIR, Multimodal Sensing, TinyML, and Embedded AI for Sustainable Agri-Food Systems</i>
13.15 - 14.15	Lunch/Prayer
14.15– 15.15	Keynote Speaker IV Assoc. Prof. Dr. Hasyiya Karimah Adli <i>Title of Keynote: Machine Learning-Driven Data Optimization for Accelerated Discovery in Perovskite Photovoltaics</i>
15.15 - 16.15 :	Keynote Speaker V Dr. Bibi Noraini Mohd Yusuf <i>Title of Keynote: Reimagining Zakat for The Digital Age: The FCoEE AI-Driven Human Capital Empowerment and Development (AHEAD) Framework for Perlis Asnaf</i>
16.15 - 17.15 :	Keynote Speaker VI Prof. Dr. Md. Aminul Islam <i>Title of Keynote: Artificial Intelligence and Workforce Transformation in the Energy Industry: Navigating the Future of Job Displacement and Human Capital Development</i>

PARALLEL CONFERENCE

Date: 13 September 2026 (Sunday)

Venue: Fakultas Ekonomi dan Bisnis

Universitas Muhammadiyah Sumatera Utara, (UMSU) Medan, Indonesia

DAY 2

Time	Activity
8.00 – 8.30	Registration Venue: Auditorium Universiti Muhammadiyah Sumatera Utara (UMSU)
8.30 – 10.00	Parallel Session I Fakultas Ekonomi dan Bisnis: Kelas Internasional A Kelas Internasional B Kelas Internasional C
10.00 - 10.30	Refreshment
10.30 – 12.00	Parallel Session II Fakultas Ekonomi dan Bisnis: Kelas Internasional A Kelas Internasional B Kelas Internasional C
12.00 - 14.30	Lunch/Prayer

PARALLEL CONFERENCE

SESSION I

Room A: Kelas International A, Fakultas Ekonomi dan Bisnis

Track: AI & It's Application

Technical support personnel: UMSU & FCoEE

No.	Time	Title	Presenter	Session Chair
1	08.30 - 08.45	Prompt Engineering: An Exploratory Review of Challenges and Future Directions for Intelligent AI Systems <i>Jin Ma, Normazidah Che Musa, Mohammad Nazir Ahmad</i>	<i>Jin Ma ★</i>	<i>1. Fatma Sari Hutagalung, S.Kom., M.Kom 2. Ferdy Riza, S.T., M.Kom</i>
2	08.45 - 09.00	Evaluating the Effect of Aggressive and Insult-Based Prompting on Large Language Model Accuracy: A Comparative Study of ChatGPT, Gemini, and Claude <i>Amar Faiz Adira, Hevlie Winda Nazry</i>	<i>Amar Faiz Adira ★</i>	
3	09.00 - 09.15	Regression-Based Prediction and Performance Classification of Perovskite Solar Cell Efficiency <i>Fairus Ayuni Hassri, Wan Nur Izzati Wan Abd Aziz, Hasyiya Karimah Adli, Nurul Izzah Hayati Mohd Noor</i>	<i>Fairus Ayuni Hassri ★</i>	
4	09.15 - 09.30	Human-in-the-Loop Agentic AI Workflow Architecture for Smart Campus Administrative Automation <i>Yoshida Sary, Martiano, Alkhowarizmi</i>	<i>Yoshida Sary ★</i>	
5	09.30 - 09.45	Development of a Multi-Role-Based Digital Tourism Platform with a Destination Recommendation System to Strengthen the Regional Economy <i>Soraya Lestari, M Bayu Wibawa, Dzakkiyansyah, Desita Ria Yusian, Annisa Qadrunnada</i>	<i>Soraya Lestari ★★</i>	
6	09.45 - 10.00	The Effectiveness of Using Artificial Intelligence (AI) Models for Early Detection of Stunting Risk Based on Maternal Nutritional Status and Psychological Health: A Health Law Perspective <i>Zuliana Amalia, Rika Despina, Bayu Arif Prabudi, Idar Sri Afriyanti Zebua, Cut Nelly</i>	<i>Zuliana Amalia ★</i>	

Mode of Presentation:

★ **Physical Presentation**

★★ **Online Presentation**

PARALLEL CONFERENCE

SESSION I

Room B: Kelas International B, Fakultas Ekonomi dan Bisnis

Track: Robotics & Internet of Things, Computing

Technical support personnel: UMSU & FCoEE

No.	Time	Title	Presenter	Session Chair
1	08.30 - 08.45	Next-Generation Fire Emergency Response: Empirical Insights into IoT Technology Acceptance among Malaysian Firefighters <i>Rabeah Md Zin, Adi Irfan Che Ani, Nor Hazlinda Shamsudin, Mohd Asrul Hassin, Nur 'Amirah Mhd Noh</i>	<i>Rabeah Md Zin ★★</i>	1. <i>Reza Musthofa Mufti, S.Kom,</i> 2. <i>M.Kom Hevlie Winda Nazry S, S.Pd, M.Si</i>
2	08.45 - 09.00	Development and Performance Evaluation of an IoT-Based Emergency Alert System for Real-Time Occupational Safety and Disaster Response in Industrial Facilities <i>Partaonan Harahap, Rimbawati, Noorly Evalina, Angga Pramana Harahap</i>	<i>Partaonan Harahap ★</i>	
3	09.00 - 09.15	Smart-DM: An IoT-Based Framework for Inclusive and Adaptive Evacuation Infrastructure <i>Annisa Qadrunnada, Siti Zahrina Fakhra, Soraya Lestari, Desita Ria Yusian</i>	<i>Annisa Qadrunnada ★★</i>	
4	09.15 - 09.30	PeuJamee Digital Smartstay: IoT Adoption for Local Wisdom-Based Halal Tourism Accommodation Transformation <i>Rizki Julia Utama, Ferdy Hidayatullah, Rahmat Alimin, Almuiza Kamal</i>	<i>Rizki Julia Utama ★★</i>	
5	09.30 - 09.45	Emotion and Sentiment Detection for Abusive Discourse: A Systematic Review of LLMs and Multi-Task Learning <i>Wan Azzura Wan Ramli, Rabiah Abdul Kadir, Amalia Amalia, Mei Choo Ang</i>	<i>Wan Azzura Wan Ramli ★</i> <i>computing</i>	
6	09.45 - 10.00	Not All Models Benefit From Memory: Model Capability Is Associated With Retrieval Utility in Multi-Turn Indonesian Conversation <i>Darrell Rafif Kenzie, Yoshida Sary</i>	<i>Darrell Rafif Kenzie ★</i> <i>computing</i>	

Mode of Presentation:

★ **Physical Presentation**

★★ **Online Presentation**

PARALLEL CONFERENCE

SESSION I

Room C: Kelas International C, Fakultas Ekonomi dan Bisnis

Track: Empowerment of Asnaf through Artificial Intelligence,
Artificial Intelligence for Education

Technical support personnel: **UMSU & FCoEE**

No.	Time	Title	Presenter	Session Chair
1	08.30 - 08.45	Reskilling and Upskilling Pesantren's Educators in Digital Transformation <i>Albert, Dewi Wulandari, Addiniah Sefitri, Irwandi</i>	<i>Albert ★★</i>	1. <i>Farid Akbar Siregar, S.Kom., M.Kom</i> 2. <i>M. Fakhrol Hirzi, M.Kom</i>
2	08.45 - 09.00	Beyond Platform Popularity: A Strategic Platform Fit Perspective on Digital Marketing Platform Selection Among Asnaf Entrepreneurs <i>Muhammad Fathullah Al Haq bin Muhammad Sani, Fathullah Asni</i>	<i>Muhammad Fathullah Al Haq bin Muhammad Sani ★</i>	
3	09.00 - 09.15	Digital Education: The Effects of Artificial Intelligence on the Mathematics and English Achievement of Form Five Asnaf Students in the State of Perlis <i>Suhana Mohd Ishak, Noridah Yangman, Bibi Noraini Mohd Yusuf, Kamarudin Hussin, Rozita Hasan, Rozaiman Abd Rahman, Noor Nadhirah Omar, Noor Syakiroh Mohd Noor</i>	<i>Suhana Mohd Ishak ★</i>	
4	09.15 - 09.30	REPROEDU-PLATFORM: Development and Evaluation Design of an Interactive Digital Education Platform to Improve Reproductive Health Knowledge among University Students <i>Sahbainur Rezeki, Halimatussakdiyah Lubis, Henni Safrida Sitompul, Tsuwaibatul Aslamiyah, Atika Rahmi</i>	<i>Sahbainur Rezeki, S.ST., M.K.M ★</i>	
5	09.30 - 09.45	How Digital Storytelling Shapes Children's Thinking: A Scoping Review of Cognitive Processes and Developmental Outcomes <i>Madihah Khazan, Romarzila Omar</i>	<i>Madihah Khazan ★</i>	
6	09.45 - 10.00	Beyond Digital Skills: Investigating AI Readiness among TVET Students in the Era of Industry 5.0 <i>Darren Peter, Marsyall Peter, Paul Peter, Peter Yacob</i>	<i>Darren Peter ★★</i>	

Mode of Presentation:

★ **Physical Presentation**

★★ **Online Presentation**

PARALLEL CONFERENCE

SESSION II

Room A: Kelas International A, Fakultas Ekonomi dan Bisnis

Track: Artificial Intelligence for Education

Technical support personnel: **UMSU & FCoEE**

No.	Time	Title	Presenter	Session Chair
1	10.30 - 10.45	Synergizing Academia and Digital Industries Fostering Innovation through Strategic Partnerships <i>Beni Arbi Batubara, Rani Robetty, Rizky Ayu, Sabda Abdillah Lubis, Afrizal Sofyan Lubis</i>	<i>Beni Arbi Batubara</i> S.H., M.H. ★	1. <i>Fatma Sari Hutagalung,</i> S.Kom., M.Kom 2. <i>Ferdy Riza,</i> S.T., M.Kom
2	10.45 - 11.00	An Improved Explainable and Fairness-Aware Ensemble Learning Model for Early Student Dropout Prediction <i>Arief Setiawan, Martiano</i>	<i>Arief Setiawan</i> ★	
3	11.00 - 11.15	Ethical Challenges of Generative AI Use in English Education Among EFL Students : A Mixed-Methods Critical Discourse Analysis <i>Aulia Ukhtin, Multahada Ramadhani Siregar, Abdul Karim Tarigan, Muhammad Abdul Haris, Debby Rizky</i>	<i>Aulia Ukhtin</i> ★	
4	11.15 - 11.30	Digital Literacy as a Key Competency for 21 st -Century Learners in Elementary Education <i>Rafni Fajriati, Herawati, Desita Ria Yusian, Nurul Adillah</i>	<i>Rafni Fajriati</i> ★★	<i>Dr. Ahmad Faisal Nasution</i> ★
5	11.30 - 11.45	The Role of ChatGPT in Enhancing Scientific English Writing Skills Among Health Science Students <i>Ahmad Faisal Nasution, Kharis Meiwan Kristian Telaumbanua, Nurul Huda Pangabea, Nur Laily Harfita, Surya Kelana Putra</i>	<i>Dr. Ahmad Faisal Nasution</i> ★	
6	11.45 - 12.00	Generative AI for Stunting Prevention Education: Enhancing Maternal Knowledge and Awareness in Samosir Regency, Indonesia <i>Faradita Wahyuni, Syahrul'an, Dika Saraswati</i>	<i>Faradita Wahyuni</i> ★★	

Mode of Presentation:

★ **Physical Presentation**

★★ **Online Presentation**

PARALLEL CONFERENCE

SESSION II

Room B: Kelas International B, Fakultas Ekonomi dan Bisnis

Track: Artificial Intelligence for Education

Technical support personnel: **UMSU & FCoEE**

No.	Time	Title	Presenter	Session Chair
1	10.30 - 10.45	Exploring the Role of ChatGPT as an Emotional Support Tool for Generation Z Students Coping with Psychological Stress <i>Mely Nadia, Widiya Putri Utami, Abdi Hardiansah Hasibuan</i>	<i>Mely Nadia</i> ★	1. <i>Reza musthofa mufti, S.Kom, M.Kom</i> 2. <i>Hevlie Winda Nazry S, S.Pd, M.Si</i>
2	10.45 - 11.00	Artificial Intelligence and Digital Health for Childhood Immunization and Stunting Prevention: A Narrative Bibliometric Review <i>Chairanisa Anwar, Budi Permana, Rouzatun Nisa, Ardhana Yulisma</i>	<i>Chairanisa Anwar</i> ★★	
3	11.00 - 11.15	The Role of Generative AI in Enhancing Academic Writing Skills among Healthcare Students <i>Syarifah Chaniago, Afni Rosalina, Ika Wulandari, Erni Susilawati, Novi Susanti</i>	<i>Syarifah Chaniago</i> ★	
4	11.15 - 11.30	Enhancing Teaching and Learning Mathematics: The Development of a Virtual Reality-Based TelEdu-MathG <i>Mutiawati, Nelly, Mutia Fonna, Alvin Riski, Rahmah Johar</i>	<i>Mutiawati</i> ★	
5	11.30 - 11.45	BuildTech Interactive Learning: Students' Perception of a Gamified Digital Platform in Construction Technology Education <i>Mohd. Asrul Hassin, Azirah Adnan, Rabeah Md Zin</i>	<i>Mohd. Asrul Hassin</i> ★★	
6	11.45 - 12.00	Project-Based and Game-Based Learning for Strengthening Renewable Energy Education and Supporting Curriculum Development in Secondary Schools <i>Yawma Wulida, Muksalmina, Mely Nadia</i>	<i>Yawma Wulida</i> ★★	

Mode of Presentation:

★ **Physical Presentation**

★★ **Online Presentation**

PARALLEL CONFERENCE

SESSION II

Room C: Kelas International C, Fakultas Ekonomi dan Bisnis

Track: Digital Entrepreneurship, Computing

Technical support personnel: **UMSU & FCoEE**

No.	Time	Title	Presenter	Session Chair
1	10.30 - 10.45	The Role of Generative AI in Enhancing Innovation Capability among Digital Entrepreneurs in Emerging Economies <i>Amelia Khairina Ilmi, Wahyudi Maherza, Sellywarnitasari, Yogie Pratama, Joceline Schellenberg</i>	<i>Amelia Khairina Ilmi</i> ★	1. Farid Akbar Siregar, S.Kom., M.Kom 2. M. Fakhru Hirzi, M.Kom
2	10.45 - 11.00	An Entropy-Weighted TOPSIS Decision Support Framework for Prioritizing Green Finance Strategies toward a Low-Carbon Maritime Industry in Archipelagic Regions <i>Ferdy Hidayatullah, Arnawan Hasibuan, Amru Sujud, Muammar Khadafi, M Sayuti, Widyana Verawaty Siregar</i>	<i>Ferdy Hidayatullah</i> ★	
3	11.00 - 11.15	A Survey of Information-Theoretic Approaches in Economic Cybernetics for Entrepreneurial Resource Allocation and Intelligent Decision Support <i>Hadhrami Ab Ghani, Muhammad Rifki, Lukman Hakim</i>	<i>Hadhrami Ab Ghani</i> ★	
4	11.15 - 11.30	Advancing Quantum Tehcnology Workforce: Logistics Industry Insights into Qualification and Training Needs <i>Marsyall Peter, Darren Peter, Paul Peter, Peter Yacob</i>	<i>Marsyall Peter</i> ★★ <i>Computing</i>	
5	11.30 - 11.45	Quantum Technology Readiness Among Higher Education Institution Students: Future Skills Perspective <i>Paul Peter, Darren Peter, Marsyall Peter, Peter Yacob</i>	<i>Paul Peter</i> ★★ <i>Computing</i>	
6	11.45 - 12.00	Comparative Effectiveness of Video- and Leaflet-Based Health Education on Mothers' Knowledge of Acute Respiratory Infection Prevention Among Children Under Five in a Rural Community Health Setting in Aceh, Indonesia <i>Eva Rosdiana, Hartati, Rulia Meilina, Fauziah Andika, Nuzulul Rahmi</i>	<i>Eva Rosdiana</i> ★★ <i>Computing</i>	

Mode of Presentation:

★ **Physical Presentation**

★★ **Online Presentation**

CLOSING CEREMONY OF INTERNATIONAL CONFERENCE ON NEXT GENERATION DIGITAL TECHNOLOGIES (NEXT-D)

Date: 13 September 2026 (Sunday)

Venue: Auditorium Universitas Muhammadiyah Sumatera Utara,
(UMSU) Medan, Indonesia

Time	Activity
14:30 pm	: Arrival of Participants
15:00 pm	: Arrival of Invited Guests
15:15 pm	: Arrival of the YAB Menteri Besar of Perlis and YABhg. Wife
15:30 pm	: Arrival of His Royal Highness The Raja Muda of Perlis and Her Royal Highness The Raja Puan Muda of Perlis
	: Royal Anthem – Dirgahayu Tuanku
	: National Anthem of Malaysia – Negaraku
	: National Anthem of Indonesia – Indonesia Raya
	: Opening Cultural Dance Performance
	: Welcome Address by the Chair of the International Conference on Next Generation Digital Technologies (NEXT-D)
	: Speech by the Rector of Universitas Muhammadiyah Sumatera Utara (UMSU)
	: Speech by the Executive Chairman of Faizuddin Centre of Educational Excellence (FCoEE) and Advisor to the International Conference on Next Generation Digital Technologies (NEXT-D)
	: Royal Address by His Royal Highness The Raja Muda of Perlis
	: Official Launch Ceremony
	: Cultural Performance
	: His Royal Highness The Raja Muda of Perlis and Her Royal Highness The Raja Puan Muda of Perlis Depart from the Ceremony
	: Royal Anthem – Dirgahayu Tuanku
	: Group Photography Session
	: His Royal Highness The Raja Muda of Perlis and Her Royal Highness The Raja Puan Muda of Perlis proceed to the Banquet Hall
	: Royal Banquet
	: Departure of His Royal Highness The Raja Muda of Perlis and Her Royal Highness The Raja Puan Muda of Perlis
	: YAB Menteri Besar of Perlis and YABhg. Wife leave from the Ceremony
	: End of Programme

WORKSHOP AGENDA

Date: 14 September 2026 (Monday)

Venue: Universitas Muhammadiyah Sumatera Utara (UMSU)

DAY 3

Time	Activity
8.00 am – 9.00 am	: Breakfast / Registration
9.00 am – 9.30 am	: Perlis Food Promotion
9:30 am – 12:30 pm	: Workshop 1: Chatbot Development: Build Your First AI Chatbot
9:30 am – 12:30 pm	: Workshop 2: Data Analytics & Power BI: Build an Interactive Dashboard
12:30 pm – 14:00 pm	: Lunch/Prayer
14:00 pm – 17:00 pm	: Workshop 3: Computer Vision & Google Colab: Implement Real-World Visual Intelligence
14:00 pm – 17:00 pm	: Workshop 4: Virtual Reality:Developing Immersive Educational Experiences Using CoSpaces Edu
	: Dismiss

WORKSHOP SESSION

Date: 14 September 2026 (Monday)

Venue: Universitas Muhammadiyah Sumatera Utara (UMSU)

DAY 3

Morning Session

Venue: Fakultas Ilmu Komputer & Teknologi Informasi:- **Lab Multimedia**

Track A: Chatbot Development: Build Your First AI Chatbot

No.	Time	Instructor	Facilitator
1	9.30 - 12.30	<i>Samuel Ching Xin Ren</i>	1. <i>Muhammad IqbalPradipta, S.Kom., M.Kom.</i> 2. <i>Mahardika Abdi Prawira Tanjung, S.Kom, M.Kom</i>

Venue: Fakultas Ilmu Komputer & Teknologi Informasi:- **Lab Database**

Track B: Data Analytics & Power BI Workshop : Build An Interactive Dashboard

No.	Time	Instructor	Facilitator
2	9.30 - 12.30	<i>Mohammad Fairus bin Zulkifli</i>	1. <i>Zuli Agustina Gultom, M.Si</i> 2. <i>Hevlie Winda Nazry S, S.Pd, M.Si</i>

12.30 – 14.00 pm Lunch/Prayer

Afternoon Session

Venue: Fakultas Ilmu Komputer & Teknologi Informasi:- **Lab Multimedia**

Track A: Computer Vision & Google Colab Workshop :
Implement Real-World Visual Intelligence

No.	Time	Instructor	Facilitator
1	14.00 - 17.00	<i>Dr. Marizuana binti Mat Daud</i>	1. <i>Nugra Atsaury Saragih, S.Kom, M.T.</i> 2. <i>Martiano S.Pd, S.Kom., M.Kom</i>

Venue: Fakultas Ilmu Komputer & Teknologi Informasi:- **Lab Database**

Track B: Virtual Reality Workshop : Developing Immersive Educational Experiences
Using CoSpaces Edu

No.	Time	Instructor	Facilitator
2	14.00 - 17.00	<i>Iffa Nurlatifah</i>	1. <i>Okvi Nugroho, S.Kom., M.Kom</i> 2. <i>Muhammad Haris, S.Kom., M.Kom</i>