Timestamp	Email Address	Supervisor Name	Research Area	Research Title	Brief Description
3/4/2026 22:20:02	firdaussahran@um.edu.r	Firdaus Sahran	Next Generation Network	Quantum Machine Learning for Integrated Networks; Autonomous Networking with	Applying QML algorithms for the global optimization of networks; Combining Explainable AI and Large Language Models for automated root cause analysis and self-healing in network

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3/5/2026 6:27:15	tutut@um.edu.my	Tutut Herawan	Soft computing	(1) Soft set theory for conflict analysis in warfare; (2) Soft set theory for conflict a	1. Soft Set Theory for Conflict Analysis in Warfare Molodtsov introduced Soft Set Theory in 1999 as a mathematical framework to model uncertainty without the limitations of probability-based or fuzzy-based systems. In modern warfa... In contemporary conflicts such as the Russia-Ukraine War and the Israel-Hamas War, battlefield decision-making involves ambiguous parameters: Reliability of intelligence sources Troop morale and readiness Civilian displacement patterns Cyberattack attribution Drone swarm unpredictability Soft set theory allows analysts to define parameterized decision environments, where each parameter (e.g., logistics strength, air superiority, terrain control) maps to sets of possible ou... In modern hybrid warfare—where kinetic, cyber, informational, and economic operations overlap—soft set modeling helps: Evaluate strategic vulnerability under uncertain intelligence Optimize multi-criteria battlefield decisions Model adaptive adversarial behavior Simulate escalation thresholds Thus, soft set theory offers a structured mathematical tool for analyzing warfare scenarios where classical deterministic models fail due to complexity and incomplete information. 2. Soft Set Theory for Conflict Analysis in Geopolitics Geopolitical conflict today is no longer purely military—it includes sanctions, proxy wars, trade wars, cyber warfare, and energy leverage. Events such as tensions in the South China Sea... Soft set theory is particularly powerful in geopolitical modeling because: Actors have shifting priorities Alliances are conditional rather than absolute Strategic interests evolve over time For example, a geopolitical soft set model might include parameters such as: Energy dependency Military capability Trade interdependence Public opinion Sanction exposure Technological sovereignty Each country can be represented as a soft set over these parameters, allowing analysts to: Identify potential alliance clusters Detect instability regions Evaluate sanction effectiveness Model risk of escalation In current sanction regimes related to the Russia-Ukraine conflict, soft set modeling helps analyze how economic, political, and military pressures interact under uncertain global respon... 3. Soft Set Theory for Conflict Analysis in Defense and Maritime Maritime and defense conflicts are increasingly complex, especially in contested regions such as the Taiwan Strait and the South China Sea. Modern maritime security involves: Naval deterrence Grey-zone operations Coast guard militarization Maritime militia deployment Submarine invisibility Supply chain chokepoints In defense and maritime strategy, uncertainty arises from: Radar invisibility and stealth technology Satellite data ambiguity Autonomous naval systems Cyber vulnerabilities in defense networks Soft set theory enables: Threat classification under uncertain intelligence Multi-parameter naval risk assessment

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3/5/2026 7:21:11	nazlita@um.edu.my	Nornazlita Hussin	Augmented Reality (AR)	1.A Machine Learning-Based AR Navigation Framework for Real-Time Obstacle De	This research addresses the navigation hazards faced by visually impaired individuals. You will develop a framework that uses machine learning to identify physical objects and overlay
3/5/2026 7:24:41	nazlita@um.edu.my	Nornazlita Hussin	Augmented Reality (AR)	A Mixed Methods Evaluation of a Gamified AR Learning Framework for Improving	Students often struggle with 3D visualization in mathematics. This study creates a pedagogical framework that projects 3D geometric proofs into physical space, using a mixed-method You can suggest switching the context to any topic like Human Anatomy or Chemistry Molecule Bonding.
3/5/2026 7:26:37	nazlita@um.edu.my	Nornazlita Hussin	Augmented Reality (AR)	A Quantitative Stimuli-Response Framework for Post-Stroke Cognitive Rehabilitatic	High-cost clinical rehab is a barrier for many patients. This project proposes a home-based rehabilitation model using AR visual stimuli. You will quantitatively analyze patient motor-skil Feel free to suggest any area that you are comfortable with.
3/5/2026 7:28:49	nazlita@um.edu.my	Nornazlita Hussin	Augmented Reality (AR)	A Qualitative User-Perception Model for Sustainable Urban Planning Using Context	Public resistance to urban development often lack of visual clarity. This research develops a framework for visualization of green infrastructure, using qualitative interviews to model ho
3/5/2026 7:31:37	nazlita@um.edu.my	Nornazlita Hussin	Virtual Reality (VR)	A Quantitative Model for Disaster Response Training in High-Fidelity VR Simulatior	Emergency responders often lack realistic high-stress training. This study develops a framework that simulates life-threatening scenarios in VR, using quantitative biometric data to mea
3/5/2026 7:40:02	nazlita@um.edu.my	Nornazlita Hussin	Virtual Reality (VR)	A Machine Learning-Adaptive VR Framework for Reducing Fear and Building Calm	This is a modern take on "exposure therapy." For someone afraid of heights, you will build a VR environment that starts on a ground-floor balcony. An ML algorithm watches the user's liv Feel free to change any phobia that interest you.
3/5/2026 7:42:22	nazlita@um.edu.my	Nornazlita Hussin	Virtual Reality (VR)	A Mixed Methods Job-Skill Training Model for Neurodivergent Individuals in Senso	For people with Autism, a noisy workplace can be overwhelming. You will create a Sensory-Adjustable VR Model where they can practice job tasks (like stocking a shelf) in a quiet, virtua
3/5/2026 7:49:20	nazlita@um.edu.my	Nornazlita Hussin	Virtual Reality (VR)	A Qualitative Narrative-Immersion Framework for Virtual Heritage Tourism in Reco	Instead of just looking at ruins, a tourist puts on a VR headset and sees a historical building exactly as it looked 500 years ago, complete with virtual citizens walking around. You will de
3/5/2026 8:09:27	nazlita@um.edu.my	Nornazlita Hussin	Human-Computer Interac	A Mixed Methods Peer-Influence Model for Turning Online "Green" Engagement int	Many people "Like" environmental posts but don't actually recycle. You will develop a Social-Influence Framework that uses proof (showing what your friends are doing) to encourage re It does not have to focus on recycling. You can change the scope.
3/5/2026 8:16:57	nazlita@um.edu.my	Nornazlita Hussin	Human-Computer Interac	A Mixed Methods Instructional Design Framework for Transitioning Social Media C	The research process focuses on the digital-to-physical behavioral transition of Malaysians who consume short-form cooking video content. You can use the viral videos of influencer K A combination of quantitative app-tracking data and qualitative thematic analysis can be done. The final method involves testing this framework against traditional video formats to vali
3/5/2026 17:18:46	noraniza@um.edu.my	Nor Aniza Abdullah	Medical Image Enhancer	Low-Dose CT Image ReconstructionUsing Diffusion Model	This research focuses on reconstructing high-fidelity images from Low-Dose CT (LDCT) scans using diffusion models, by comparing model performance, identifying the best-performing
3/6/2026 9:36:34	misslaiha@um.edu.my	Miss Laiha Mat Kiah	Cyber Security	Blockchain-based access control framework	To investigate and design a blockchain-access control system in a chosen infrastructure/scenario/domain such as supply chain, healthcare or x.
3/6/2026 9:42:32	misslaiha@um.edu.my	Miss Laiha Mat Kiah	Cyber security	Secure and lightweight communication for IoT devices	Investigate and develop a secure and lightweight solution for IoT devices in a real world scenario.
3/9/2026 9:22:03	rjry@um.edu.my	Raja Jamilah Raja Yusof	Algorithm and LLM	Light Weight Algorithmic Approach in comparison to Large Language Model Appro	An exploratory study comparing traditional algorithmic (lightweight) approaches with large language model (LLM)-based methods for detecting textual inconsistencies. While LLMs ma
3/10/2026 15:29:58	simying.ong@um.edu.my	ONG SIM YING	Information Security, Ima	Data Embedding using 2D Tree Generation	In this research, we will learn 2D tree generation algorithm, and use the tree properties to embed data while generating the trunks, leaves, etc. You will work together with the PhD studer Besides, you will also learn to plan and conduct extensive experiments to measure the performance of the data embedding algorithm, including the tree qualities, data extraction accura