Subject Code	MM6450
Subject Title	Transformative AI and AI Ethics
Credit Value	3
Level	6
Normal Duration	1-semester
Pre-requisite/ Co-requisite/ Exclusion	None
Objectives	This subject contributes to the achievement of the DBAI program outcome by increase students' ability to meet transformative challenges in AI and BI revolution (Outcome 1: Expanding and enriching students' comprehension of the significance of digital technology transformation and technological innovations in the business sphere, while considering ethical implications.) The primary objective is to provide students with a deep understanding of Transformative AI and its ethical implications. This course aims to: 1. Explore the latest developments in AI, focusing on transformative technologies and their potential impact on society. 2. Foster critical thinking and ethical reasoning related to AI technologies and their application in real business environments. 3. Equip students with the skills to assess the societal, ethical and policy implications on AI technology innovation. 4. Prepare students for leadership roles in academia, industry, or research, emphasizing responsible AI development and deployment.
Intended Learning Outcomes	By the end of the course, students will be able to: a. Analyze and evaluate the transformative potential of advance AI technologies; b. Formulate ethical frameworks and guidelines for the development and use of AI; c. Assess the societal, economic, and political implications of AI technology; d. Contribute to ethical AI research, policymaking, and advocacy. e. Communicate complex ethical AI issues effectively to diverse stakeholders.
Subject Synopsis/ Indicative Syllabus	• Introduction to Transformative AI: Understanding transformative technologies; Ethical challenges posed by transformative AI technologies. • Advanced AI Technologies: Deep Learning and Neural Networks; Generative models and reinforcement learning; Quantum computing and AI. • AI and Data Privacy: Data Ethics and Privacy concerns, AI for surveillance and facial recognition; Privacy-enhancing AI technologies. • AI Governance and Policy: AI Ethics frameworks and Guidelines; AI regulation and international cooperation; Ethical considerations in AI policymaking. • Ethical AI research and Advocacy: Case studies of ethical AI research; Ethical AI advocacy and activism; Impactful communication of AI ethics issues.
Teaching/Learning Methodology	The teaching format of the subject will be a combination of lectures, case studies, guest speakers, individual research and assessments. The intensive learning experience will foster student engagement, encourage application of knowledge, problem-solving, and critical thinking skills. Active participation is essential.

Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
			a	b	c	d	e
	Continuous Assessment*	**100%**					
	1. Group project	30%		✓	✓		
	2. Individual research report	40%	✓		✓		
	3. Individual reflection on Ethical dilemma (AI related)	10%	✓	✓		✓	✓
	4. Class discussion & presentation	20%	✓	✓	✓		✓
	Total	100 %					

Weighting of assessment methods/tasks in continuous assessment may be different, subject to each subject lecturer.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes: The chosen assessment methods are carefully designed to ensure comprehensive evaluation of all students in this subject.

Group project: The group project offers students a valuable opportunity to conduct a behavioral experiment. Working collaboratively in small teams, students are tasked with designing and implementing an experiment. They begin by selecting an intriguing area and conducting research on a proposed topic. Subsequently, the team narrows down the topic to a few falsifiable research problems and formulates theory-driven and testable hypotheses. Using these hypotheses, students design the experiment, collect and analyze data, and report their findings.

Individual research report: The individual research report aims to develop students' ability to independently carry out practical research work. Each student takes the initiative to discuss research ideas with classmates and lecturers, eventually selecting a specific research topic for further exploration. Students are required to write a comprehensive report outlining their research plan. This assessment method enhances their understanding of qualitative approaches to research.

Individual reflection: The individual reflection assesses students' critical thinking ethical reasoning, and ability to analyze complex AI-related Issues. It evaluated students on their various research skills and it isa comprehensive assessment of students' engagement with AI challenges.

Class participation and interaction: As a crucial assessment method in this advanced workshop, class participation and interaction provide valuable feedback to each classmate regarding their research ideas. The experience sharing session in the workshop is evaluated based on active participation, which helps clarify concepts, methodologies, and critical success factors in conducting research projects.
Immediate feedback: Following presentations, students receive immediate feedback, and all students are encouraged to participate in the subsequent discussion.

To pass this subject, students are required to obtain Grade D or above in the Continuous Assessment components

Student Study Effort Expected	Class contact:	
	▪ Lectures	30 Hrs.
	Other student study effort:	
	▪ Preparation for lectures	30 Hrs.
	▪ Preparation for assignment / group project and presentation	60 Hrs.
	Total student study effort	120 Hrs.
Reading List and References	Khan, A. A., Badshah, S., Liang, P., Khan, B., Waseem, M., Niazi, M., & Akbar, M. A. (2021). Ethics of AI: A Systematic Literature Review of Principles and Challenges. Murphy, K., Di Ruggiero, E., Upshur, R., Willison, D. J., Malhotra, N., Cai, J. C., Malhotra, N., Lui, V., & Gibson, J. (2021). Artificial intelligence for good health: a scoping review of the ethics literature. Roche, C., Wall, P. J., & Lewis, D. (2022). Ethics and diversity in artificial intelligence policies, strategies and initiatives. Khan, A. A., Badshah, S., Liang, P., Khan, B., Waseem, M., Niazi, M., & Akbar, M. A. (2021). Ethics of AI: A Systematic Literature Review of Principles and Challenges. Murphy, K., Di Ruggiero, E., Upshur, R., Willison, D. J., Malhotra, N., Cai, J. C., Malhotra, N., Lui, V., & Gibson, J. (2021). Artificial intelligence for good health: a scoping review of the ethics literature. Roche, C., Wall, P. J., & Lewis, D. (2022). Ethics and diversity in artificial intelligence policies, strategies and initiatives. From AI ethics principles to data science practice: a reflection and a proposal (2021).

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