Master of Science in Artificial Intelligence (MSAI)

Course Name	Research Trends in Artificial Intelligent		اتجاهات بحثية في الذكاء الإصطناعي		
Course	Course Code	Course No.	Credit Hour	Prerequisite(s)	
Information	0911-1682	682	3 (3-0-6)	Research Methodology	
Course Track	Program Core		Electives		

Course Description. Al is moving at an incredible pace along with a rapid innovations either in hardware and software. This course aims to enrich the student experience by handling the latest progress in state-of-the-art Al research and applications. The course contents covers a broad array of research topics and recent trends in systems design to better support the next generation of Al applications, and applications of Al to optimize the architecture and the performance of systems. The course may focus on the applications that cope with Kingdom of Saudi Vision and King Faisal University identity. Accordingly, the course syllabus will continuously be updated with new trends from state-of-the-art research and cutting-edge technology. The format of this course will be a mix of lectures, seminar-style discussions, guest lectures, and student presentations. Guest lectures will be delivered by notable researchers of Al either from the program or outside. Students will be responsible for paper readings, and completing a hands-on project. Readings will be selected from international journals and recent conference proceedings. Suggested project ideas will be provided by the instructor, but students are strongly encouraged to come up with their own project ideas. On completion of this course students should have a broad understanding of some key papers and concepts in research at the intersection of computer systems and Al/ML, as well as an appreciation of how to argue for or against any particular idea. In addition, the course will hone students' soft skills like teamwork, empathy, communication, and building functional products in agile teams.

Course Outcomes. After the completion of this course, the student will be able to:

- 1. Discuss the current trends in AI and has the competence to judge different approaches and technologies. [A]
- 2. Comprehend and critique relevant research papers in the area of "systems for AI" and "AI for systems". [F]
- 3. **Present** their research both orally in a concise way and within the allotted time as well as in writing. [A]
- 4. Enumerate strengths and weaknesses of different AI technologies and under what circumstances they can be applied. [E]
- 5. **Defend** the research approach, design decisions, and the evaluation methods in a discussion. **[D]**
- 6. Design and conduct experiments using AI methods, with emphasis on evaluation. [E]
- Apply professional and research skills to propose an AI-base system with ability to compare with alternatives
 [B]

Assessment	Research Project	50 %	Participation	10 %		
Policy	Scientific review article	25 %	Presentation	15 %		
Textbook	There is no textbook for the course. Each student is expected to read 1-2 papers per a week. The papers will be selected in advance by the instructor.					

College of Computer Science and IT

King Faisal University