

Syllabus
MCO2072E Social Robots and Artificial Intelligence
 Dr. Hector Gonzalez-Jimenez
 Winter Semester 2023/24

Level	Master	
Credits	3	
Student Contact Hours	2	
Workload	90 hours, 30 hours within class and 60 hours for self-study	
Prerequisites	Bachelor's degree	
Time	See LSF	
Room	See LSF	
Start Date	See LSF	
Lecturer(s)	Name	Hector Gonzalez-Jimenez, Prof. Dr.
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Summary

Movies such as Chappie, I-Robot, or Ex Machina exemplify artificially intelligent robots that interact seemingly effortless with humans. While these science fiction movies seem sometimes far-fetched, real world applications where humans interact already with robots in various marketplace settings do exist. For instance, Softbank Robotics developed a popular social robot named Nao, while Sony recently introduced a pet dog robot called Aibo. These robots are already taking a role in various business settings to enhance the customer and service experience, while also acting as companion robots at homes. Furthermore, the Care-O-Bot is being used to assist humans in elderly care settings, while the Henna-Hotel in Tokyo is already using almost exclusively “robot staff” to serve its customers. These examples are just a short list of the potential applications of social robots in the marketplace (e.g. healthcare, education, retail). According to Boston Consulting Group the commercial robotics market alone is expected to grow to \$23 billion by 2025. Hence, it is imperative for students and future marketers to further their understanding of how to integrate and interact these robots in various business settings and society.

Learning Objectives

This course is designed for students who will either work in sectors that are, or will likely be, impacted by the inclusion of social robots. The course explores how social robots are integrated to support or even replace humans in several commercial or non-profit environments. In particular, future marketers, need to clearly understand customer perceptions of social robots and AI in order to satisfy current and future market needs and service expectations. In this respect, this course will include several scenarios to develop students’ creative and managerial skills and to mirror the contents taught.

The objectives of the course are:

- to strengthen students’ understanding of human-robot/AI interactions in the global marketplace across several sectors (e.g. healthcare, education, companionship, retail, services),
- to structure the students’ understanding of different robot types, applications and design features that enhance human-robot/AI interactions and the acceptance of these robots in the marketplace and in particular service settings,
- to make students aware of how and where to potentially integrate social robots and AI to improve the customer experience, and
- to provide students with skills to creatively plan and integrate social robots and AI into various marketplace scenarios.

Learning Outcomes

At the end of the course, students should be able to:

- Recognize the impact of social robots and AI on various marketplace sectors and scenarios such as hotels, retail shops, restaurants, healthcare providers, etc.
- Discuss the various ways social robots and AI influence marketing practices and consumer demand.
- Apply different tools and methodologies to evaluate the attractiveness of business opportunities considering social robots and AI.
- Design a strategic plan for the integration of social robots and AI in a marketplace scenario (industry choice, specific application, robot type, robot tasks, benefits for the business operation and/or customer experience)

Course Intended Learning Outcomes and their Contribution to Program Intended Learning Outcomes / Program Goals

Program Intended Learning Outcomes		Course Intended Learning Outcomes	Assessment Methods	
After completion of the program the students will be able...		After completion of the course the students will be able...	Presentation	Project Work
			70%	30%
			Collective	Collective
1	Responsible Leadership in Organizational Contexts			
1.1	... to demonstrate their sound knowledge of creative communication and brand management theories and concepts.	... to demonstrate their sound knowledge of Social Robots and Artificial Intelligence theories and concepts.	X	X
1.2	... to expertly apply creative communication and brand management theories and concepts to organizational contexts.	... to expertly apply Social Robots and Artificial Intelligence.	X	X
1.3	... to critically reflect creative communication and brand management theories and concepts.	... to critically reflect Social Robots and Artificial Intelligence theories and concepts.	X	X
1.4	... to act responsibly from a scientific self-understanding and professional self-image.	... to act responsibly from a scientific self-understanding and professional self-image.	X	X
2	Creative Problem Solving Skills in a Complex Business Environment			
2.1	... to identify challenges for creative communication and brand management.	... to identify challenges for Social Robots and Artificial Intelligence.	X	X
2.2	... to analyze problems of creative communication and brand management.	... to analyze problems of Social Robots and Artificial Intelligence.	X	X
2.3	... to develop creative solutions to complex problems of creative communication and brand management.	... to develop creative solutions to complex problems of Social Robots and Artificial Intelligence.	X	X
2.4	... to communicate solutions in the field of creative communication and brand management.	... to communicate solutions in the field of Social Robots and Artificial Intelligence.	X	X
4	Communication and Collaboration Skills			
4.1	... to convey content in a way that is suitable for the relevant publics.	... to convey content in a way that is suitable for the relevant publics (group task).	X	X
4.2	...to successfully collaborate in a team.	...to successfully collaborate in a team (group task).	X	X

Outline of the Course

- The role of social robots and AI in various sectors such as hospitality, retail, IT, healthcare, etc.
- Robot and AI design features and their influence on consumer interactions
- Global factors and social robot and AI acceptance
- Emotional and cognitive abilities of social robots and AI
- Independent versus Assistive Social Robots: The role of AI
- Ethical implications of social robots and AI
- Debate, exercises, activities and role-plays.

Teaching and Learning Approach

Learning on this course take place in several ways:

- Doing the recommended readings prior to and after the lectures
- Actively participating in class to obtain feedback
- Actively working in groups throughout the course on practical tasks on social robot and AI issues
- Harnessing the feedback opportunities offered throughout the term and building on that feed-back
- Case studies, exercises, activities, role-plays and debate, de-briefing. Following the 70/30 principle of action learning, in which students are engaged at least 70% of the time in action, debate, and exercising their skills.

Literature and Course Materials

- Gonzalez-Jimenez, H. (2018). Taking the fiction out of science fiction: (Self-aware) robots and what they mean for society, retailers and marketers. *Futures*, 98, 49-56.
- Huang, M. H., & Rust, R. T. (2018). Artificial intelligence in service. *Journal of Service Research*, 21(2), 155-172.
- Piçarra, N., & Giger, J. C. (2018). Predicting intention to work with social robots at anticipationstage: Assessing the role of behavioral desire and anticipated emotions. *Computers in Human Behavior*, 86, 129-146.
- Shankar, V. (2018). How Artificial Intelligence (AI) Is Reshaping Retailing. *Journal of Retailing* 94 (4).
- Van Doorn, J., Mende, M., Noble, S. M., Hulland, J., Ostrom, A. L., Grewal, D., & Petersen, J. A. (2017). Domo arigato Mr. Roboto: Emergence of automated social presence in organizational frontlines and customers' service experiences. *Journal of Service Research*, 20(1), 43-58.
- Wirtz, J., Patterson, P. G., Kunz, W. H., Gruber, T., Lu, V. N., Paluch, S., & Martins, A. (2018). Brave new world: service robots in the frontline. *Journal of Service Management*, 29(5), 907-931.

Assessment

Student performance on this course is assessed through a practical group task. The overall mark for this course is determined by a group presentation and report. The focus of the task lies in applying the learned concepts to a business scenario. Students will select a company of their choice in one of the outlined scenarios (e.g., healthcare or elderly care facility, retail setting such as a clothing shop, educational provider, etc.). Each session will cover specific topics, which will then be applied to the selected company scenario. Specific guidance on the task will be provided in class.

Assessment criteria will be:

The presentation will entail 70% of the final mark. Groups will receive verbal feedback after the presentation. This feedback should be considered and incorporated into the final report/presentation, which will be submitted via email 1 week after the presentation. This revised version will carry a weight of 30%. For each group, 60% of the mark will be determined by individual performance and 40% by group performance.

Schedule

[See LSF](#)

Academic Integrity and Student Responsibility

Students at master's level do not need reminding of their responsibilities. Still information on this point can be found in: [Link to the Code of Conduct for online Teaching](#)

Teaching Philosophy

My teaching philosophy focuses on a) autonomous student preparation for classes coupled with b) learning by knowledge application, both in and outside of class, and by c) improving through formative feedback (peer and professor).