

PRACOWNIK/ZESPÓŁ ZGŁASZAJĄCY/REALIZUJĄCY KURS:
DEPARTMENT: Faculty of Electronics W4
SCIENTIFIC DISCIPLINE: Automation, Electronics and Electrical Engineering

SUBJECT CARD

Course name in Polish: Robotyka społeczna
Course name in English: Social Robotics
The course is held in Polish.
University-wide general course type*:
The course is intended for all PhD students: YES / NO

- ~~1) BASIC COURSE~~
- 2) **SPECIALIST COURSE**
- ~~3) SEMINAR~~
- ~~4) HUMANISTIC COURSE~~
- ~~5) LANGUAGE~~

Subject code: AEQ004102W

* delete as applicable

	Wykład autorski	Lektorat	Seminarium	Różne formy
Number of hours of organized classes in University (ZZU)	30			
Form of crediting	Exam			
Number of ECTS points	0			

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

- 1. no requirements

SUBJECT OBJECTIVES

- C1 Gaining competencies of creating a common social space for human and robots.
- C2 Gainig knowledge about technology of social robots.

PROGRAM CONTENTS

Form of classes – lecture		Number of hours
Wa1	Socially interactive robot: an introduction	4
Wa2	Computational models of emotion based on appraisal theories	3
Wa3	Computational models of emotion based on dimensional theories	1
Wa4	User’s model, intentionality	2
Wa5	Memory	2
Wa6	Embodiment of a social robot, introduction to humanoid robots	2

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Wa7	Humanoid robot components: robotic arms and legs	2
Wa8	Humanoid robot NAO	2
Wa9	Software environments for implementation and integration of a social robot control system	2
Wa10	Human – robot communication	4
Wa11	Human – robot interactions: introduction	1
Wa12	Human – robot interactions: examples of research problems	3
Wa13	Robotc companion	2
	Total hours	30

TEACHING TOOLS USED
N1. lecture N2. konsultacje N3. self-study

EDUCATIONAL EFFECTS		
Type of learning effect	The code of the component of the description of the learning effect	Verification method
knowledge	P8S_WG	exam

PRIMARY AND SECONDARY LITERATURE
<p><u>PRIMARY LITERATURE:</u></p> <p>[1] Terrence Fong, Illah Nourbakhsh, Kerstin Dautenhahn, A survey of socially interactive robots , Robotics and Autonomous Systems, Volume 42, Issues 3-4, <i>Pages 143-166</i></p> <p>[2] C. Breazeal, A. Takanishi, T. Kobayashi, Social Robots that Interact with People rozdział w: Springer Handbook of Robotics, pp. 1349-1369, Springer Berlin Heidelberg, 2008</p> <p>[3] Joscha Bach, Dietrich Dörner, Ronnie Vuine, <i>Psi and MicroPsi A Novel Approach to Modeling Emotion and Cognition in a Cognitive Architecture</i>, The 7th International Conference on Cognitive Modeling</p> <p>[4] Cynthia Breazeal, Emotion and sociable humanoid robots, International Journal of Human-Computer Studies, vol. 59, Issues 1-2, July 2003, Pages 119-155</p> <p>[5] Brian Scassellati, Theory of Mind for a Humanoid Robot, Humanoids 2000</p> <p>[6] C. Breazeal, Designing Sociable Robots, MIT Press, Cambridge, MA, 2002</p> <p>[7] Zhihong Zeng, Maja Pantic, Glenn I. Roisman and Thomas S. Huang, <i>A survey of affect recognition methods: audio, visual and spontaneous expressions</i>, IEEE Transactions on Pattern Analysis and Machine Intelligence 2009, wolumen 31, s. 39 – 58.</p> <p>[8] M. A. Anusuya, S. K. Katti. Speech recognition by machine: A review. International Journal of Computer Science and Information Security, 2009, wolumen 6 s. 181 – 205.</p> <p>[9] S. Mitra, T. Acharya, Gesture Recognition: A Survey, IEEE Trans. Systems, Man, Cybernet., —Part C: Applications and Reviews, vol. 37, no. 3, pp.311-324, 2007</p> <p>[10] Riek, L.D. Rabinowitch, T.-C. Bremner, P. Pipe, A.G. Fraser, M. Robinson, P. Cooperative gestures: Effective signaling for humanoid robots, Human-Robot Interaction (HRI), 2010 5th ACM/IEEE International Conference on, page(s): 61 – 68</p>

- [11] K. Dautenhahn. Methodology & themes of human-robot interaction: A growing research field. International Journal of Advanced Robotic Systems, 2007, wolumen 4 (1), s. 103–108.

SECONDARY LITERATURE:

- [1] Joao Miguel de Sousa de Assis Dias, FearNot!: Creating Emotional Autonomous Synthetic Characters for Empathic Interactions, UNIVERSIDADE TÉCNICA DE LISBOA, rozprawa doktorska
- [2] A. Billard et al. Robot Programming by Demonstration, Handbook of Robotics, Ch 59, 2007.
- [3] Wickens, Gordon, and Liu, "Chapter 2: Research Methods", W: An Introduction to Human Factors Engineering, 1998.

SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)

Krzysztof Arent, krzysztof.arent@pwr.edu.pl