

CSCE689_Fall2018_Roadmap

Section	Week	Date	Topic	Reading	Assignment
Introduction	1	8/28	Introduction	Picard, 1995; Vinciarelli et al., 2009; Narayanan et al., 2013	HW1 Out (Introduction)
	1	8/30	Introduction	Picard, 1995; Vinciarelli et al., 2009; Narayanan et al., 2013	
Ecologically valid data collection procedures	2	9/4	In-class activity: Paper reading & discussion	Ipatovska, 2011; Busso et al., 2008; Koelstra et al., 2011; Campbell, 2014; Metallinou et al., 2016; Koldijk et al., "The SWELL Knowledge Work Dataset for Stress and User Modeling Research," 2014	HW1 Due
	2	9/6	Invited lecture	Dr. Winfred Arthur, Department of Psychology, Texas A&M, "Research validity methods"	
Physiological Signal Processing	3	9/11	Tutorial on Physiological Signals and Fourier Transform		
	3	9/13	Tutorial on Physiological Signals and Fourier Transform		
Speech Signal Processing	4	9/18	In-class activity: Paper reading & discussion	Subramanian et al., "ASCERTAIN: Emotion and Personality Recognition Using Commercial Sensors," 2018	HW2 Out (Physiological Signals)
	4	9/20	Tutorial on Speech Signals		
Data Analysis & Machine Learning	5	9/25	Tutorial on Speech Signals		
	5	9/27	In-class activity: Paper reading & discussion	B. Schuller, "Voice and Speech Analysis in Search of States and Traits"	
	6	10/2	Tutorial on Statistical Analysis		H2 Due; H3 Out (Speech Signals)
Education, Entertainment, Social Well-being Applications	6	10/4	Tutorial on Machine Learning Basics & Neural Networks		
	7	10/9	In-class activity: Paper reading & discussion	Yun et al., "Automatic Recognition of Children Engagement from Facial Video using Convolutional Neural Networks," 2018	
Human Subjects and Literature Review Procedures	7	10/11	Invited lecture	Dr. Changbum Ryan Ahn, Construction Science Department, Texas A&M	
	8	10/16	Invited lecture	Aline Lovings, M.A., Human Research Protection Program, Texas A&M, "Subject privacy and confidentiality"	H3 Due;
8	10/18	Invited lecture	Prof. Margaret J. Foster, MS, MPH, AHIP, "Which Literature Review is best for you?"		
Education, Entertainment, Social Well-being Applications (cc-ed)	9	10/23	Paper reading	Monkaresi et al., "Automated Detection of Engagement Using Video-Based Estimation of Facial Expressions and Heart Rate," 2017 Whitehill et al., "The Faces of Engagement: Automatic Recognition of Student Engagement from Facial Expressions," 2014	H4 Out (Experimental Data Collection)
	9	10/25	Paper reading	Celiktutan et al., "Multimodal Human-Human-Robot Interactions (MHHR) Dataset for Studying Personality and Engagement," TAFFC 2015 Sadoughi, "Creating Prosodic Synchrony for a Robot Co-player in a Speech-controlled Game for Children," 2017	
	10	10/30	Paper reading	Hernandez et al., "Measuring the Engagement Level of TV Viewers," 2013 Poulsen et al., "EEG in the classroom: Synchronised neural recordings during video presentation," 2016	
	10	11/1	Paper reading	Yannakakis & Paiva, "Emotion in Games," 2015 Naim et al., "Automated Analysis and Prediction of Job Interview Performance," 2018	
Midterm presentations	11	11/6	HW4 Presentations		H4 Due
	11	11/8	HW4 Presentations		
Well-being applications	12	11/13	Paper reading	Sano et al., "Stress Recognition using Wearable Sensors and Mobile Phones," 2013 Koldijk et al., "Detecting work stress in offices by combining unobtrusive sensors," 2016	
	12	11/15	Paper reading	Gideon et al., "Mood State Prediction from Speech of Varying Acoustic Quality for Individuals with Bipolar Disorder," 2016 Mundt et al., "Voice acoustic measures of depression severity and treatment response collected via interactive voice response (IVR) technology," 2007	Project Proposal Due
Clinical applications (personalization, transfer learning)	13	11/20	Paper reading	Lane et al., "Community Similarity Networks," 2014 Taylor et al., "Personalized Multitask Learning for Predicting Tomorrow's Mood, Stress, and Health," 2017	
	13	11/22	Thanksgiving - No class		
Final presentations	14	11/27	Paper reading	Gideon et al., "Progressive Neural Networks for Transfer Learning in Emotion Recognition," 2017	
	14	11/29	Project Final Presentations		Final Project Due
15	12/4	Project Final Presentations			