

## İtir Önal Ertuğrul

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CONTACT INFORMATION	Carnegie Mellon University Robotics Institute EDSH 235, Pittsburgh, PA, USA
RESEARCH INTERESTS	Machine learning, affective computing, biomedical signal processing, computer vision
PERSONAL INFORMATION	<b>Place and date of birth:</b> Ankara, 11/01/1989 <b>Nationality:</b> Turkish <b>Gender:</b> Female <b>Languages:</b> English (Proficient), German (Elementary), Turkish (Native)
EDUCATION	<b>Middle East Technical University (METU)</b> , Ankara, Turkey  Ph.D., Computer Engineering, August 2017, 4.00/4.00  M.Sc., Computer Engineering, September 2013, 4.00/4.00  B.Sc., Computer Engineering, June 2011, 3.83/4.00 (3 <sup>rd</sup> place)
ACADEMIC AND WORK EXPERIENCE	<b>Postdoctoral Researcher</b> <b>02/2018 - current</b>  Robotics Institute, Carnegie Mellon University  <b>Postdoctoral Researcher</b> <b>09/2017 - 01/2018</b>  Affect Analysis Group, Department of Psychology, University of Pittsburgh  <b>Research and Teaching Assistant</b> <b>09/2011 - 09/2017</b>  ImageLab, Computer Engineering, Middle East Technical University  <b>Visiting Ph.D. Student</b> <b>07/2016 - 09/2016</b>  Pattern Recognition and Bioinformatics Lab, Delft University of Technology  <b>Summer School Attendee</b> <b>07/2010 - 08/2010</b>  Microsoft Summer School, Ankara, Turkey  <b>Exchange Student</b> <b>02/2010 - 06/2010</b>  Electrical Engineering, Czech Technical University  <b>Intern</b> <b>06/2009 - 07/2009</b>  Software Research and Development Center (SRDC), Ankara, Turkey  <b>Student Teaching Assistant</b> <b>09/2008 - 05/2011</b>  Computer Engineering, Middle East Technical University

HONORS & AWARDS	Best Paper Award in 12 <sup>th</sup> IEEE International Conference on Cognitive Informatics and Cognitive Computing (ICCI*CC)	2013
	High honor graduation, M.Sc. in Computer Engineering, METU	2013
	High honor graduation (3 <sup>rd</sup> in ranking), B.Sc. Computer Engineering, METU	2011
	Outstanding Achievement Award, Computer Engineering, METU	2008 - 2011
	Ranked 1155 <sup>th</sup> among ~2M examinees in Turkish University Entrance Examination	2006
	Graduation with distinction (3 <sup>rd</sup> in ranking), Ankara Atatürk Anatolian High School	2006
CERTIFICATES	Course Certificate of online course Probabilistic Graphical Models 2: Inference by Prof. Dr. Daphne Koller	
	Course Certificate of online course Probabilistic Graphical Models 1: Representation by Prof. Dr. Daphne Koller	
	Course Certificate of online course Machine Learning by Andrew Ng.	
SCHOLARSHIPS	<b>TUBITAK 2211: National Scholarship for Ph.D. Students</b>	2013 - 2017
	The Scientific and Technological Research Council of Turkey	
	<b>TUBITAK 2210: National Scholarship for M. Sc. Students</b>	2011 - 2013
	The Scientific and Technological Research Council of Turkey	
PROJECTS	<b>Multi-layered cognitive learning model.</b>	09/2014 - 09/2016
	The Scientific and Technological Research Council of Turkey (TUBITAK) (Project no: 114E045)	
	<b>Local voxel networks for modeling and classification of brain activity during cognitive processing, using brain signals.</b>	09/2013 - 09/2015
	The Scientific and Technological Research Council of Turkey (TUBITAK) (Project no: 112E315)	
	<b>HVAS Video Analysis System</b>	09/2011 - 09/2013
	HAVELSAN	
JOURNAL PUBLICATIONS	<b>Smart Shopping</b>	09/2010 - 06/2011
	Final design project sponsored by ASELSAN	
	[1] <b>I. Onal Ertugrul</b> , M. Ozay, F. T. Yarman Vural. Gender classification using mesh networks on multiresolution multitask fMRI data . <i>Brain Imaging and Behavior</i> , 2019.	
	[2] <b>I. Onal Ertugrul</b> , L. A. Jeni, H. Dibeklioglu. Modeling and Synthesis of Kinship Patterns of Facial Expressions. <i>Image and Vision Computing</i> , 2018.	
	[3] <b>I. Onal Ertugrul</b> , M. Ozay, F. T. Yarman Vural. Encoding the Local Connectivity Patterns of fMRI for Cognitive State Classification. <i>Brain Imaging and Behavior</i> , 2018.	
	[4] <b>I. Onal Ertugrul</b> , M. Ozay, F. T. Yarman Vural. Hierarchical Multi-resolution Mesh Networks for Brain Decoding <i>Brain Imaging and Behavior</i> , 2017.	
	[5] <b>I. Onal</b> , M. Ozay, E. Mizrak, I. Oztekin and F. T. Yarman Vural, A New Representation of fMRI Signal by a Set of Local Meshes for Brain Decoding. <i>IEEE Transactions on Signal and Information Processing over Networks</i> , 2017.	
	[6] O. Firat, M. Ozay, <b>I. Onal</b> , I. Oztekin, F. T. Yarman Vural, Enhancing Local Linear Models Using Functional Connectivity for Brain State Decoding, <i>International Journal of Cognitive Informatics and Natural Intelligence</i> , 2014.	

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| BOOK CHAPTERS           | [7] J. F. Cohn, <b>I. Onal Ertugrul</b> , W. S. Chu, J. M. Girard, L. A. Jeni, and Z. Hammal. Affective facial computing: Generalizability across domains. In <i>Multimodal Behavior Analysis in the Wild</i> , pp. 407-441. Academic Press, 2019.   |
| CONFERENCE PUBLICATIONS | <p>[8] <b>I. Onal Ertugrul</b>, L. A. Jeni, and J. F. Cohn. PAttNet: Patch-attentive deep network for AU detection. <i>British Machine Vision Conference (BMVC)</i> 2019.</p> <p>[9] K. Niinuma, L. A. Jeni, <b>I. Onal Ertugrul</b>, and J. F. Cohn. Unmasking the devil in the details: What works for deep facial action coding? <i>British Machine Vision Conference (BMVC)</i> 2019.</p> <p>[10] L. Yang, <b>I. Onal Ertugrul</b>, J. F. Cohn, Z. Hammal, D. Jiang, and H. Sahli. FACS3D-Net: 3D convolution based spatiotemporal representation for action unit detection. <i>International Conference on Affective Computing and Intelligent Interaction</i>. 2019.</p> <p>[11] <b>I. Onal Ertugrul</b>, J. F. Cohn, L. A. Jeni, Z. Zhang, L. Yin, and Q. Ji. Cross-domain AU detection: domains, learning approaches, and measures. <i>IEEE International Conference on Automatic Face and Gesture Recognition</i>. 2019, (oral presentation).</p> <p>[12] <b>I. Onal Ertugrul</b>, L. A. Jeni, W. Ding, and J. F. Cohn. AFAR: A Deep learning based tool for automated facial affect recognition. <i>IEEE International Conference on Automatic Face and Gesture Recognition</i>, 2019.</p> <p>[13] J. F. Cohn, L. A. Jeni, <b>I. Onal Ertugrul</b>, D. Malone, M. S. Okun, D. Borton, and W. K. Goodman. Automated Affect Detection in Deep Brain Stimulation for Obsessive-Compulsive Disorder: A Pilot Study. <i>International Conference on Multimodal Interaction (ICMI)</i>, 2018.</p> <p>[14] <b>I. Onal Ertugrul</b>, L. A. Jeni and J. F. Cohn, FACSCaps: Pose-Independent Facial Action Coding with Capsules <i>IEEE International Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)</i>, 2018.</p> <p>[15] <b>I. Onal Ertugrul</b> and H. Dibeklioglu, What will Your Future Child Look Like? Modeling and Synthesis of Hereditary Patterns of Facial Dynamics. <i>IEEE International Conference on Automatic Face and Gesture Recognition (FG)</i>, 2017, (oral presentation).</p> <p>[16] A. M. Ertugrul, <b>I. Onal</b>, C. Acarturk, Does the Strength of Sentiment Matter? A Regression Based Approach on Turkish Social Media, <i>International Conference on Applications of Natural Language to Information Systems (NLDB)</i>, 2017.</p> <p>[17] A. Afrasiyabi, <b>I. Onal</b>, F. T. Yarman Vural, A Sparse Temporal Mesh Model for Brain Decoding, <i>15th IEEE International Conference on Cognitive Informatics and Cognitive Computing (ICCI*CC)</i>, 2016.</p> <p>[18] <b>I. Onal</b>, M. Ozay, F. T. Yarman Vural, Functional Mesh Model with Temporal Measurements for Brain Decoding, <i>37<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)</i>, 2015.</p> <p>[19] <b>I. Onal</b>, M. Ozay, F. T. Yarman Vural, Modeling Voxel Connectivity for Brain Decoding, <i>International Workshop on Pattern Recognition in Neuroimaging (PRNI)</i> 2015, (oral presentation)</p> <p>[20] <b>I. Onal</b>, A. Temizel, F. T. Yarman Vural, Spatial and Temporal Feature Extraction for Brain Decoding using CUDA, <i>GPU Technology Conference (GTC)</i>, 2015.</p> <p>[21] <b>I. Onal</b>, E. Aksan, B. Velioglu, O. Firat, M. Ozay, I. Oztekin, F. T. Yarman Vural, Modeling the Brain Connectivity for Pattern Analysis, <i>22<sup>nd</sup> International Conference on Pattern Recognition (ICPR)</i>, 2014</p> |

- [22] O. Firat, **I. Onal**, E. Aksan, B. Velioglu, I. Oztekin, F. T. Yarman Vural, Large Scale Functional Connectivity For Brain Decoding, *11<sup>th</sup> IASTED International Conference on Biomedical Engineering (BioMed)*, 2014.
- [23] B. Velioglu, E. Aksan, **I. Onal**, O. Firat, M. Ozay, F. T. Yarman Vural, Functional Networks of Anatomic Brain Regions, *13th IEEE International Conference on Cognitive Informatics and Cognitive Computing (ICCI\*CC)*, 2014.
- [24] **I. Onal**, A. M. Ertugrul, R. Cakici, Effect of Using Regression on Class Confidence Scores in Sentiment Analysis of Twitter Data, *5th ACL Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis (WASSA)*, 2014.
- [25] A. M. Ertugrul, **I. Onal**, RemindMe: An Enhanced Mobile Location-Based Reminder Application, *International Conference on Future Internet of Things and Cloud (FiCloud)*, 2014.
- [26] **I. Onal**, M. Ozay, O. Firat, I. Oztekin, F. T. Yarman Vural, An Information Theoretic Approach to Classify Cognitive States Using fMRI, *13<sup>th</sup> IEEE International Conference on BioInformatics and BioEngineering (BIBE)*, 2013.
- [27] **I. Onal**, M. Ozay, O. Firat, I. Oztekin, F. T. Yarman Vural, Analyzing the Information Distribution in the fMRI measurements by estimating the degree of locality, *35<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, 2013.
- [28] O. Firat, M. Ozay, **I. Onal**, I. Oztekin, F. T. Yarman Vural, Functional Mesh Learning for Pattern Analysis of Cognitive Processes, *12th IEEE International Conference on Cognitive Informatics and Cognitive Computing (ICCI\*CC)*, 2013. **(Best Paper Award)**
- [29] O. Firat, M. Ozay, **I. Onal**, I. Oztekin, F. T. Yarman Vural, Representation of Cognitive Processes Using the Minimum Spanning Tree of Local Meshes, *35<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, 2013.
- [30] **I. Onal**, K. Kardas, Y. Rezaeitabar, U. Bayram, M. Bal, I. Ulusoy, N. Kesim Cicekli, A framework for Detecting Complex Events in Surveillance Videos, *3rd IEEE International Workshop on Advances in Automated Multimedia Surveillance for Public Safety (AAMS-PS)*, 2013.
- [31] A. Afrasiyabi, **I. Onal**, F. T. Yarman Vural. Effect of voxel selection on temporal mesh model for brain decoding. *24<sup>th</sup> IEEE Signal Processing and Communication Application Conference (SIU)*, 2016. (in Turkish)
- [32] **I. Onal**, E. Aksan, B. Velioglu, O. Firat, M. Ozay, I. Oztekin, F. T. Yarman Vural, A Brain Network for Cognitive State Analysis. *23<sup>rd</sup> IEEE Conference on Signal Processing and Communications Applications (SIU)*, 2015. (in Turkish)
- [33] **I. Onal**, E. Aksan, B. Velioglu, O. Firat, M. Ozay, I. Oztekin, F. T. Yarman Vural, Estimating Brain Connectivity for Pattern Analysis, *22<sup>nd</sup> IEEE Conference on Signal Processing and Communications Applications (SIU)*, 2014. (in Turkish)
- [34] **I. Onal**, A. M. Ertugrul, Effect of Using Regression in Sentiment Analysis, *22<sup>nd</sup> IEEE Conference on Signal Processing and Communications Applications (SIU)*, 2014. (in Turkish)
- [35] A. M. Ertugrul, **I. Onal**, Çeşitli Konum Etiketleme Opsiyonlarıyla Zenginleştirilmiş Yeni Bir Konum Bazlı Hatırlatma Uygulaması, *8. Ulusal Yazılım Mühendisliği Sempozyumu (UYMS)*, 2014. (in Turkish)

- [36] **I. Onal**, M. Ozay, O. Firat, I. Oztekin, F. T. Yarman Vural, Information Distribution Analysis in the fMRI measurements with Degree of Locality Estimation, 21<sup>th</sup> *IEEE Conference on Signal Processing and Communications Applications (SIU)*, 2013 (in Turkish)
- [37] O. Firat, M. Ozay, **I. Onal**, I. Oztekin, F. T. Yarman Vural, Cognitive Processes Representation Using Minimum Spanning Tree of Local Meshes, 21<sup>th</sup> *IEEE Conference on Signal Processing and Communications Applications (SIU)*, 2013 (in Turkish)
- [38] O. Firat, M. Ozay, **I. Onal**, I. Oztekin, F. T. Yarman Vural, A Mesh Learning Approach for Brain Data Modeling, 20<sup>th</sup> *IEEE Conference on Signal Processing and Communications Applications (SIU)*, 2012. (in Turkish)
- [39] **I. Onal Ertugrul**, Representation of Human Brain by Mesh Networks. *Ph.D. Thesis, Middle East Technical University, Department of Computer Engineering*, 2017.
- [40] **I. Onal**, An Information Theoretic Representation of Brain Connectivity for Cognitive State Classification Using Functional Magnetic Resonance Imaging. *M.Sc. Thesis, Middle East Technical University, Department of Computer Engineering*, 2013.

THESES