Monday, 5 March 2018

MoAT1: 09:35-11:05  Treasure Island ABC
BHI Session # 1 – Intelligent Sensing Informatics (Oral Session)
Chair: Trejos, Ana Luisa The University of Western Ontario
Co-Chair: Ozturk, Yusuf San Diego State University

09:35-09:50  MoAT1.1
SSVEP Recognition using Discriminative Score Fusion and Transformation for Portable Brain Computer Interface ................................................................. 1-4
Dehzangi, Omid* (University of Michigan-Dearborn); Farooq, Muhamed (University of Michigan-Dearborn)

09:50-10:05  MoAT1.2
Phase-Based Cortico-Cortical Connectivity Mapping in Motor Cortex of Nonhuman Primate .................................................. 5-8
Patil, Reena (San Diego State Univ.); Iseri, Ege (Univ. of California San Diego); Zanos, Stavros (Univ of Washington Schl of Medicine); Fetz, Eberhard (Univ of Washington); Ozturk, Yusuf* (San Diego State Univ.)

10:05-10:20  MoAT1.3
Multi-Modal Driver Drowsiness Detection: A Feasibility Study ................................................................. 9-12
Lemkaddem, Alia* (CSEM); Delgado-Gonzalo, Ricard (CSEM); Türetken, Engin (CSEM); Dasen, Stephan (CSEM); Moser, Virginie (CSEM); Gressum, Carl (Samsung R&D Institute UK); Sola, Josep (CSEM - Centre Suiss d'Electronique et Microtechnique); Ferrario, Damien (CSEM); Verjus, Christophe (CSEM)

10:20-10:35  MoAT1.4
A Wearable Monitoring System for At-Home Stroke Rehabilitation Exercises: A Preliminary Study ...................... 13-16
Jung, Hee-Tae (University of Massachusetts Amherst); Joon Woo, Park (Daegu University); Jeong, Jugyeong (Heeyeon Hospital); Ryu, Taekyong (Heeyeon Hospital); Kim, Yangsoo (Heeyeon Hospital); Lee, Sunghoon Ivan* (University of Massachusetts Amherst)

10:35-10:50  MoAT1.5
Activity and Circadian Rhythm of Sepsis Patients in the Intensive Care Unit .................................................. 17-20
Davoudi, Anis* (University of Florida); Corbett, Duane B. (University Florida - College of Medicine); Ozrazgat-Baslanti, Tezcan (University of Florida); Bihorac, Azra (University of Florida); Brakenridge, Scott C. (University of Florida); Manini, Todd M. (University of Florida); Rashidi, Parisa (University of Florida)

10:50-11:05  MoAT1.6
Monitoring and Evaluation of Ingestive Activities ................................................................. 21-24
Hassan, Eman Ayman* (Cairo University); Elmahdy, Mohamed S. (Systems and Biomedical Dept., Faculty of Engineering, Cairo); Morsy, Ahmed (Cairo University)

MoBT1: 11:20-12:50  Treasure Island ABC
BHI Session # 2 – Intelligent Sensing and Imaging Informatics (Oral Session)
Chair: Choi, Min-Hyung University of Colorado Denver
Co-Chair: Pattichis, Constantinou Cyprus University

11:20-11:35  MoBT1.1
Non-Contact Measurements of Diaphragm Electromyogram, Electrocardiogram and Respiratory Variations with Sheet-Type Fabric Electrodes for Neonatal Monitoring ...................... 25-28
Uesawa, Hayato* (Tokyo Denki University); Takehara, Tomoya (Tokyo Denki University); Ueno, Akinori (Tokyo Denki University)
11:35-11:50 MoBT1.2
Spatially-Resolved Estimation of Personal Dosage of Airborne Particulates for Ambulatory Subjects using Wearable Sensors ............................................................... 29-32
Arvind, D K* (University of Edinburgh)

11:50-12:05 MoBT1.3
Severity Classification of Obstructive Sleep Apnea using Only Heart Rate Variability Measures with an Ensemble Classifier ................................................................. 33-36
Rahman, Md Juber (The University of Memphis); Mahajan, Ruhi (University of Tennessee Health Science Centre); Morshed, Bashir* (The University of Memphis)

12:05-12:20 MoBT1.4
Assessment of Gait Normality using a Depth Camera and Mirrors ..................................................... 37-41
Nguyen, Trong Nguyen* (University of Montreal); Huynh, Huu Hung (Danang University of Science and Technology); Meunier, Jean (Universite de Montreal)

12:20-12:35 MoBT1.5
Behavioral Analysis of Turbulent Exhale Flows ........................................................................ 42-45
Transue, Shane (University of Colorado Denver); Reza, Sayed Mohsin (University of Colorado Denver); Halbower, Ann (University of Colorado School of Medicine); Choi, Min-Hyung* (University of Colorado Denver)

12:35-12:50 MoBT1.6
Incremental Diagnostic Information Obtained via Novel Dynamic Contrast Enhanced MRI Framework Applied on Multiple Sclerosis Patients: A Preliminary Study .................................................. 46-49
Kontopoulos, Eleftherios* (Foundation for Research and Technology – Hellas (FORTH, Instut); Manikis, Georgios (Institute of Computer Science, Foundation for Research and Techno); Nikiforaki, Katerina (Institute of Computer Science, Foundation for Research and Techn); Venianaki, Maria (IMT School for Advanced Studies Lucca & Foundation for Research); Marias, Kostas (Foundation for Res. & Tech. Hellas); Maris, Thomas (Dept. of Radiology, Medical School - University of Crete, H); Karantanas, Apostolos (Radiology, University of Crete, Chairman, Dept. of Medical); Papadaki, Efrosini (Dept. of Radiology, School of Medicine, University of Cret)

MoPO: 18:15-20:15 Caribbean ABC
Poster Session # 1 and BSN Innovative Health Technology Demonstrations (Poster Session)

18:15-20:15 MoPO.1
Fuzzy Entropy Spectrum Analysis for Biomedical Signals De-Noising .................................................. 50-53
Xie, Hong-Bo (Queensland University of Technology); Guo, Tianrue* (University of New South Wales)

18:15-20:15 MoPO.2
Learning a Physical Activity Classifier for a Low-Power Embedded Wrist-Located Device .................. 54-57
Delgado-Gonzalo, Ricard* (CSEM); Renevey, Philippe (CSEM); Tarniceriu, Adrian (PulseOn SA); Parak, Jakub (Tampere University of Technology); Bertschi, Mattia (CSEM)

18:15-20:15 MoPO.3
Zhou, Yue (University of Western Ontario); Jenkins, Mary (University of Western Ontario); Naish, Michael D. (The University of Western Ontario, Lawson Health Research Institute); Trejos, Ana Luisa* (The University of Western Ontario)

18:15-20:15 MoPO.4
Preliminary Results on Transthoracic Bioimpedance Measurements with a Variety of Electrode Materials ........................................................................................................... 62-65
Reljin, Natasa* (University of Connecticut); Posada-Quintero, Hugo Fernando (University of Connecticut); Noh, Yeon Sik (University of Connecticut); Eaton-Robb, Caitlin (University of Connecticut); Dimitrof, Tanya (University of Connecticut); Murphy, Laura (University of Connecticut); Riistama, Jarno (Tampere University of Technology); Chon, Ki (University of Connecticut)

18:15-20:15 MoPO.5
Autonomous Gait Speed Estimation using 24GHz FMCW Radar Technology .................................................. 66-69
Boroomand, Ameneh* (Univ. of Waterloo); Shaker, George (Univ. of Waterloo / ECE); Morta, Plinio Pelegrini (Univ. of Waterloo); Wong, Alexander (Univ. of Waterloo); Boger, Jennifer (Univ. of Waterloo)
A Study on IMU-Based Stride Length Estimation for Motor Disabled Subjects: A Comparison under Different Calculation Methods of Rotation Matrix

Watanabe, Takashi* (Tohoku University); Miyazawa, Tasuku (Tohoku University);
Shibasaki, Jun (Minami Tohoku Hospital)  70-73

Fast and Efficient Genotype Encoding using Sparse 2D Bitmaps for Database-Driven Genomics Applications

Al Kawam, Ahmad* (Texas A&M University); Datta, Aniruddha (Texas A&M University)  74-78

Developing a Novel Noise Artifact Detection Algorithm for Smartphone PPG Signals: Preliminary Results

Bashar, Syed Khairul* (University of Connecticut); Han, Dong (University of Connecticut); Soni, Apurv (University of Massachusetts Medical School); McManus, David (University of Massachusetts Medical Center); Chon, Ki (University of Connecticut)  79-82

Towards Fully Instrumented and Automated Assessment of Motor Function Tests

De Luca, Valeria* (Novartis Institutes for Biomedical Research); Muaremi, Amir (ETH Zurich); Giggins, Oonagh (University College Dublin); Walsh, Lorcan (Novartis); Clay, Ieuan (Novartis Institutes for Biomedical Research)  83-87

A Sensor Data Collection Environment for Clinical Trials Investigating Health Effects of Airborne Pollution

Arvind, D K* (University of Edinburgh)  88-91

Unsupervised Detection of Epileptic Seizures from EEG Signals: A Channel-Specific Analysis of Long-Term Recordings

Tsiouris, Kostas (Biomedical Engineering Laboratory, School of Electrical and Comp); Konitsiotis, Spiros (Medical School, University of Ioannina); Markoula, Sofia (University of Ioannina); Rigas, Georgios (University of Ioannina); Koutsouris, Dimitrios (Biomedical Engineering Laboratory, School of Electrical and Comp); Fotiadis, Dimitrios I.* (University of Ioannina)  92-95

Deep EEG Super-Resolution: Upsampling EEG Spatial Resolution with Generative Adversarial Networks

Corley, Isaac* (University of Texas at San Antonio, Southwest Research Institute); Huang, Yufei (University of Texas at San Antonio)  100-103

A Hierarchical LSTM Model for Modeling EEG Non-Stationarity

Hasib, Md Musadaqul (University of Texas at San Antonio, San Antonio); Nayak, Tapsya (University of Texas at San Antonio); Huang, Yufei* (University of Texas at San Antonio)  104-107

A Pervasive and Sensor-Free Deep Learning System for Parkinsonian Gait Analysis

Ajay, Jerry* (University at Buffalo); Song, Chen (University at Buffalo, The State University of New York); Wang, Aosen (University at Buffalo); Langan, Jeanne (University at Buffalo); Li, Zhinan (Sennotech Inc.); Xu, Wenyao (SUNY at Buffalo)  108-111
18:15-20:15 MoPO.21
Pattern Analysis and Classification of Blood Oxygen Saturation Signals with Nonlinear Dynamics Features ................................................................. 112-115
Pham, Tuan D.* (Linkoping University)

18:15-20:15 MoPO.23
A Hybrid Feature Extraction Method to Detect Atrial Fibrillation from Single Lead ECG Recording .......... 116-119
Mahajan, Ruhi* (University of Tennessee Health Science Centre); Kamaleswaran, Rishikesan (University of Tennessee Health Science Center); Akbilgic, Oguz (UTHSC-ORNL)

18:15-20:15 MoPO.24
Inverse ECG Modeling with Spatiotemporal Regularization for the Characterization of Myocardial Infarctions .............................................................. 120-123
Yao, Bing* (The Pennsylvania State University); Zhu, Rui (The Pennsylvania State University); Yang, Hui (The Pennsylvania State University)

18:15-20:15 MoPO.25
A Deep Multi-Task Learning Approach for ECG Data Analysis .............................................................. 124-127
Ji, Jinlong (Case Western Reserve University); Chen, Xuhui (Case Western Reserve University); Luo, Changqing (Case Western Reserve University); Li, Pan* (Case Western Reserve University)

18:15-20:15 MoPO.26
Free-Living Eating Event Spotting using EMG-Monitoring Eyeglasses .................................................. 128-132
Zhang, Rui* (Friedrich-Alexander-University (FAU) Erlangen-Nuremberg); Amft, Oliver (Friedrich-Alexander Universität Erlangen-Nürnberg (FAU))

18:15-20:15 MoPO.27
Detection of Beat-to-Beat Intervals from Wrist Photoplethysmography in Patients with Sinus Rhythm and Atrial Fibrillation after Surgery .............................................................. 133-136
Tarniceriu, Adrian* (PulseOn SA); Harju, Jarkko (Tampered University hospital); Vehkaoja, Antti (Tampere University of Technology); Parak, Jakub (Tampere University of Technology); Delgado-Gonzalo, Ricard (CSEM); Renevey, Philippe (CSEM); Yli-Hankala, Arvi (University of Tampere); Korhonen, Ilkka (Tampere University of Technology)

18:15-20:15 MoPO.28
Recognizing Affective State Patterns using Regularized Learning with Nonlinear Dynamical Features of EEG .............................................................. 137-140
Fan, Miaolin (Northeastern University); Chou, Chun-An* (Northeastern University)

18:15-20:15 MoPO.29
Two Electrode based Healthcare Device for Continuously Monitoring ECG and BIA Signals ..................... 141-144
Shin, Seung-chul* (Yonsei University); Lee, Sangyeyop (Yonsei University); Lee, Taeho (Yonsei University); Lee, Kyoungwoo (Yonsei University); Lee, Yong Seung (Yonsei University); Kang, Hong-Goo (Yonsei University)

18:15-20:15 MoPO.30
A Signal Quality Index for Ballistocardiogram Recordings based on Electrocardiogram RR Intervals and Matched Filtering .............................................................. 145-148
Bicen, A. Ozan* (Georgia Institute of Technology); Inan, Omer (Georgia Institute of Technology)

18:15-20:15 MoPO.31
Energy-Efficient ECG Compression in Wearable Body Sensor Network by Leveraging Empirical Mode Decomposition .............................................................. 149-152
Huang, Hui (Michigan Technological University); Shiyan, Hu (Michigan Technological University); Sun, Ye* (Michigan Technological University)

18:15-20:15 MoPO.32
Remote Heart Rate Variability for Emotional State Monitoring .............................................................. 153-156
Benezeth, Yannick (Univ. Bourgogne Franche Comté); Li, Peixi* (Université Bourgogne Franche-Comté); Macwan, Richard (Université de Bourgogne); Nakamura, Keisuke (Honda Research Institute); Gomez, Randy (Honda Research Institute); Yang, Fan (Universite de Bourgogne)
18:15-20:15 Sensitivity Analysis of Wearable Textiles for ECG Sensing .......................................................... 157-160
Tong, Wenxin* (The Pennsylvania State University); Kan, Chen (The Pennsylvania State University); Yang, Hui (The Pennsylvania State University)

Chen, Jiaming (Northern Arizona University); Razi, Abolfazl* (Northern Arizona University)

18:15-20:15 Translating sEMG Signals to Continuous Hand Poses using Recurrent Neural Networks .......................... 166-169
Quivira, Fernando (Northeastern Univ.); Koike-Akino, Toshiaki* (Mitsubishi Electric Research Laboratories (MERL)); Wang, Ye (Mitsubishi Electric Research Laboratories (MERL)); Erdogmus, Deniz (Northeastern Univ.)

18:15-20:15 Inferring Physical Agitation in Dementia using Smartwatch and Sequential Behavior Models ....................... 170-173
Alam, Ridwan* (University of Virginia); Anderson, Martha (Virginia Tech Carilion School of Medicine); Bankole, Azziza (Virginia Tech Carilion School of Medicine); Lach, John (University of Virginia)

Ye, Bin* (City, University of London); Basdekis, Ioannis (City, University of London); Smyrlis, Michail (City University Of London); Spanoudakis, George (City University London); Koloutsou, Konstantina (Guys and St Thomas NHS Trust Hospitals)

18:15-20:15 Efficient Detection of Mesial Temporal Sclerosis using Hippocampus and CSF Features in MRI Images ........ 178-181
Wang, Huiquan (Univ. of Alberta); Ahmed, Nizam (Univ. of Alberta); Mandal, Mrinal* (Univ. of Alberta)

---

Tuesday, 6 March 2018

TuAT1: 11:10-12:40 Treasure Island ABC
BHI Session #3 – Bioinformatics for Health Monitoring (Oral Session)
Chair: Martinez-Torteya, Antonio Universidad de Monterrey
Co-Chair: Liang, Jie University of Illinois at Chicago

11:10-11:25 Generating Target/non-Target Images of an RSVP Experiment from Brain Signals in by
Conditional Generative Adversarial Network ........................................................................................................ 182-185
Lee, Yonggun* (University of Texas at San Antonio); Huang, Yufei (University of Texas at San Antonio)

11:25-11:40 Identifying Patient-Specific Trajectories in Haemodialysis using
Bayesian Hierarchical Gaussian Processes ........................................................................................................... 186-189
Zhu, Tingting* (University of Oxford); Colopy, Glen Wright (University of Oxford); Pugh, Christopher (University of Oxford); Clifton, David (University of Oxford)

11:40-11:55 Energy-Efficient Multipath Ring Network for Heterogeneous Clustered Neuronal Arrays ...................... 190-193
Ardelean, Andrei* (TU Delft, Delft University of Technology); Zjajo, Amir (Delft University of Technology);
Kumar, Sumeet Susheel (Delft University of Technology); van leuken, Rene (Delft University of Technology)
Computational Analysis of Gefitinib and Methylated-Hydroxypropylated Cyclodextrin Inclusion Complexes for the Treatment of Childhood Malignancies
Hatzigapiou, Kyriaki (National and Kapodistrian Univ. of Athens, First Dept.); Braoudaki, Maria (National and Kapodistrian Univ. of Athens, First Dept.); Bethanis, Kostas (Agricultural Univ. of Athens, Dept. of BioTechnology); Yannakopoulou, Konstantina (National Center for Scientific Research "Demokritos", Institute); Anastasiou, Athanasios* (Biomedical Engineering Laboratory, National Technical Univ.); Koutsouris, Dimitrios (Biomedical Engineering Laboratory, School of Electrical and Comp); Lambrou, George I. (National and Kapodistrian Univ. of Athens)

Cloud-Based Solution for Improving Usability and Interactivity of Metagenomic Ensemble Taxonomic Classification Methods
Alaa, Asem (Cairo University, Faculty of Engineering); Metwally, Ahmed* (University of Illinois at Chicago)

Longitudinal Gender-Specific Differences in the Conversion from Mild Cognitive Impairment to Alzheimer’s Disease
Cadena-Hernandez, Angel Guillermo (Universidad de Monterrey); Trejo-Castro, Alejandro Ismael (Universidad de Monterrey); Celaya-Padilla, José Maria (Universidad Autónoma de Zacatecas); Tamez-Peña, Jose Gerardo (Tecnológico de Monterrey); Martinez-Torteya, Antonio* (Universidad de Monterrey)

A Novel Channel-Aware Attention Framework for Multi-Channel EEG Seizure Detection via Multi-View Deep Learning
Yuan, Ye* (Beijing University of Technology); Xun, Guangxu (State University of New York at Buffalo); Ma, Fenglong (State University of New York at Buffalo); Suo, Qiuling (State University of New York at Buffalo); Xue, Hongfei (State University of New York at Buffalo); Jia, Kebin (Beijing University of Technology); Zhang, Aidong (State University of New York at Buffalo)

P-QRS-T Localization in ECG using Deep Learning
Abrishami, Hedayat (University of Cincinnati); Campbell, Matthew (University of Cincinnati); Han, Chia (University of Cincinnati); Czosek, Richard (University of Cincinnati); Zhou, Xuefu* (University of Cincinnati)

DeepVoice: A Voiceprint-Based Mobile Health Framework for Parkinson’s Disease Identification
Zhang, Hanbin* (State University of New York at Buffalo); Wang, Aosen (University at Buffalo); Li, Dongmei (University of Rochester Medical Center); Xu, Wenyao (SUNY at Buffalo)

Coarse-to-Fine Multi-Task Training of Convolutional Neural Networks for Automated Information Extraction from Cancer Pathology Reports
Alawad, Mohammed* (Oak Ridge National Laboratory); Yoon, Hong-Jun (Oak Ridge National Laboratory); Tourassi, Georgia (Oak Ridge National Laboratory)

Deep Learning from Electronic Medical Records using Attention-Based Cross-Modal Convolutional Neural Networks
Cheung, Bing Leung Patrick* (Philips Research North America); Dahl, Deborah (Banner Health)

Mortality Prediction with Self Normalizing Neural Networks in Intensive Care Unit Patients
Mohammed, Abdul Hai Zahid* (University of Waterloo); Lee, Joon (University of Waterloo)
19:30-20:30 Elastic Deformations for Data Augmentation in Breast Cancer Mass Detection ................................................. 230-234
  Castro, Eduardo* (INESCTEC); Cardoso, Jaime S. (INESC TEC and University of Porto); Costa Pereira, Jose (INESCTEC / Porto University)

19:30-20:30 Hippocampal and Entorhinal Cortex Volume Changes in Alzheimer’s Disease Patients and Mild Cognitive Impairment Subjects ................................................................. 235-238
  Leandrou, Stephanos (European University Cyprus); Mamais, Ioannis (National and Kapodistrian University of Athens, Dept. of Hy); Petroudi, Styliani (University of Oxford); Kyriacou, Panayiotis (City University London); Constantino Reyes-Aldassoro, Carlos (City University London, School of Mathematical Sciences, Compute); Pattichis, Constantinos* (University of Cyprus)

19:30-20:30 Non-Contact Comprehensive Breathing Analysis using Thermal Thin Medium .................................................... 239-242
  Schoun, Breawn (University of Colorado Denver); Transue, Shane (University of Colorado Denver); Halbower, Ann (University of Colorado School of Medicine); Choi, Min-Hyung* (University of Colorado Denver)

19:30-20:30 Joint Capsule Segmentation in Ultrasound Images of the Metacarpophalangeal Joint using a Split and Merge Approach .............................................. 243-246
  Martins, Nelson* (Neadvance, Machine Vision, SA; Universidade do Porto); Sultan, Malik Saad (University of Porto); Veiga, Diana (Neadvance Machine Vision SA); Ferreira, Manuel Joao (University of Minho); Coimbra, Miguel (Instituto de Telecomunicações / Universidade do Porto)

19:30-20:30 Bottom up Saliency Evaluation via Deep Features of State-of-the-Art Convolutional Neural Networks ........ 247-250
  Mahdi, Ali* (Southern Illinois University at Carbondale); Qin, Jun (Southern Illinois University Carbondale)

19:30-20:30 Prediction of Heart Transplant Rejection using Histopathological Whole-Slide Imaging ................................ 251-254
  Dooley, Adrienne* (Georgia Institute of Technology); Tong, Li (Georgia Institute of Technology); Deshpande, Shriprasad (School of Medicine, Emory University); Wang, May D. (Georgia Tech and Emory University)

19:30-20:30 Classification Models Inspired by Multisensory Integration ................................................................. 255-258
  Amerineni, Rajesh (Southern Illinois University); Gupta, Lalit* (Southern Illinois University); Gupta, Resh (Vanderbilt University)

19:30-20:30 Kafka Interfaces for Composable Streaming Genomics Pipelines ............................................................... 259-262
  Versaci, Francesco* (CRS4); Pireddu, Luca (CRS4); Zanetti, Gianluigi (CRS4)

19:30-20:30 On Quantification of Geometry and Topology of Protein Pockets and Channels for Assessing Mutation Effects ......................................................... 263-266
  Tian, Wei (University of Illinois at Chicago); Liang, Jie* (University of Illinois at Chicago)

19:30-20:30 Parameter-Free Adaptive Step-Size Multiobjective Optimization Applied to Remote Photoplethysmography ..................................................... 267-270
  Macwan, Richard* (Université de Bourgogne); Benezeth, Yannick (Univ. Bourgogne Franche Comté); Nakamura, Keisuke (Honda Research Institute); Gomez, Randy (Honda Research Institute); Wu, Yadong (Southwest University of Science and Technology); Mansouri, Alamin (Université de Bourgogne)

19:30-20:30 HDNA: Energy-Efficient DNA Sequencing using Hyperdimensional Computing ........................................ 271-274
  Imani, Mohsen* (University of California San Diego); Nassar, Tarek (University of California San Diego); Rahimi, Abbas (University of California Berkeley); Rosing, Tajana (University of California San Diego)
19:30-20:30
A Social Cognitive Theory-Based Framework for Monitoring Medication Adherence
Applied to Endocrine Therapy in Breast Cancer Survivors ........................................... 275-278
Boukhechba, Mehdi (University of Virginia); Baee, Sonia* (University of Virginia); Nobles, Alicia (University of Virginia); Gong, Jiaqi (University of Maryland, Baltimore County); Wells, Kristen (San Diego University); Barnes, Laura (University of Virginia)

19:30-20:30
County-Level Geographic Distributions of Diabetes in Relation to Multiple Factors in the United States ...... 279-282
Oraz, Gulzhahan (Indiana University-Purdue University Indianapolis); Luo, Xiao* (Indiana University-Purdue University Indianapolis)

19:30-20:30
Using Multiple Sentiment Dimensions of Nursing Notes to Predict Mortality in the Intensive Care Unit ...... 283-286
Tran, Nam* (University of Waterloo); Lee, Joon (University of Waterloo)

19:30-20:30
A Novel Estimation Algorithm of Evolutionary Distance based on the Word Frequency Variation of Sequence Segment ............................................................................................... 287-290
Song, Yong-Joon (Korea Advanced Institute of Science and Technology (KAIST)); Cho, Dong-Ho* (Korea Advanced Institute of Science and Technology (KAIST))

19:30-20:30
Health Data Privacy: A Case of Undesired Inferences .......................................................... 291-294
Daniels, Mark* (University of South Carolina, Medical University of South Caroli); Farkas, Csilla (University of South Carolina)

19:30-20:30
HEARTEN: An Integrated Mhealth Platform for Holistic HF Management ........................................ 295-298
Karanasiou, Georgia (Institute of Molecular Biology and BioTechnology, FORTH, Ioannina); Tripoliti, Evanthia (Dept. of Biomedical Research, Institute of Molecular Biology); Goletsis, Yorgos (University of Ioannina); Kalatzis, Fanis (Dept. of Biomedical Research, Institute of Molecular Biology); Naka, Katerina (University of Ioannina); Fuoco, Roger (University of Pisa, Dept. of Chemistry and Industrial Chemi); Miekisch, Wolfram (Dept. of Anaesthesia and Intensive Care Medicine); Tzanettis, Kostis (AppArt SA); Zervos, Stefanos (BIOAXIS Healthcare); Bausells, Joan (Instituto de Microelettronica de Barcelona, IMB-CNMI); Abdelhamid, Errachid (Universite de Lyon, Institut de Sciences Analytiques (ISA)); Fotiadis, Dimitrios I.* (University of Ioannina)

19:30-20:30
Cognitive Computing for the Automated Extraction and Meaningful use of Health Data in Narrative Medical Notes: An Application to the Clinical Management of Hearing Impaired Aged Patients ........................................ 299-302
Tognola, Gabriella* (CNR IEIIT - Istituto di Elettronica e di Ingegneria dell'Informa); Murri, Alessandra (Ospedale "Guglielmo da Saliceto", UO Otorinolaringoatria); Cuda, Domenico (Ospedale "Guglielmo da Saliceto", UO Otorinolaringoatria)

19:30-20:30
Development and Implementation of Nationwide Predictive Model for Admission Prevention .......................... 303-306
Ta, Wee An Andy* (Ministry of Health/ Integrated Health Information Systems PTE LT); Goh, Han Leong (Integrated Health Information Systems (IHIS) Pte Ltd); Tan, Chuen Seng (National University of Singapore); Sun, Yan (National Healthcare Group); Aung, Khin Chaw Yu (Eastern Health Alliance); Teoh, Zsin Woon (Ministry of Health Singapore); Tan, Kelvin Bryan (Ministry of Health, Singapore); Lau, Zheng Yi (Ministry of Health); Abisheganaden, John (Tan Tock Seng Hospital, Singapore); Lee, Kheng Hock (Singapore General Hospital); Wong, Sweet Fun (Khoo Teck Puat Hospital); Chow, Wai Leng (Changi General Hospital); Vinod Kumar, Pranav (Integrated Health Information Systems (IHIS) Pte Ltd); Choong, Zi Chao (Integrated Health Information Systems Pte Ltd); Ng, Xue Yi Cheryl (Integrated Health Information Systems Pte Ltd); Ang, Gia Lee Christine (Integrated Health Information Systems Pte Ltd); Chan, Mervin (Integrated Health Information Systems Pte Ltd); Lim, Daryl Jin Shui (IHIS); Low, Cheng Ooi (Ministry of Health Singapore, Integrated Health Information Sys)
Classification of Postoperative Surgical Site Infections from Blood Measurements with Missing Data using Recurrent Neural Networks

Storvik Strauman, Andreas (Univ. of Tromsø); Bianchi, Filippo Maria (UiT The Arctic Univ. of Norway); Mikalsen, Karl Øyvind (UiT The Arctic Univ. of Norway); Kampffmeyer, Michael (UiT The Arctic Univ. of Norway); Soguero-Ruiz, Cristina (Rey Juan Carlos Univ.); Jenssen, Robert* (UiT The Arctic Univ. of Norway)

Cardiac Function Recovery using Ejection Fraction in the Presence of a Continuous Flow Left Ventricular Assist Device

S. Vasudevan, Viswajith* (University of Central Florida); Simaan, Marwan (University of Central Florida)

Towards Deep Anchor Learning

Hansen, Mads Adrian (UiT The Arctic University of Norway); Mikalsen, Karl Øyvind (UiT The Arctic University of Norway); Kampffmeyer, Michael (UiT The Arctic University of Norway); Soguero-Ruiz, Cristina (Rey Juan Carlos University); Jenssen, Robert* (UiT The Arctic University of Norway)

Combinational Feature based Random Forest Classification for Enhanced Bundle Branch Block Beat Detection

Chen, Hao (Biofourmis); Sivanesan, Sudhakar (Biofourmis Singapore Pte Ltd); Majmudar, Maulik (Massachusetts General Hospital); Rajput, Kuldeep Singh* (Biofourmis)

Long-Term Blood Pressure Prediction with Deep Recurrent Neural Networks

Su, Peng* (The Chinese University of Hong Kong); Ding, Xiao-Rong (The Chinese University of Hong Kong); Zhang, Yuan-Ting (The Chinese University of Hong Kong); Liu, Jing (The Chinese University of Hong Kong); Miao, Fen (Key Laboratory for Health Informatics of The Chinese Academy of); Zhao, Ni (The Chinese University of Hong Kong)

A Decision Support System based on Rapid Progression Rules to Enhance Baseline Evaluation of Parkinson's Disease Patients

Tsouriis, Kostas (Biomedical Engineering Laboratory, School of Electrical and Comp); Gatsios, Dimitris (University of Ioannina); Rigas, Georgios (University of Ioannina); Konitsiotis, Spiros (Medical School, University of Ioannina); Antonini, Angelo (IRCCS Fondazione Ospedale San Camillo, Division of Parkinson’s Di); Fotiadis, Dimitrios I.* (University of Ioannina)

Reinforcement-Learning Optimal Control for Type-1 Diabetes

Ngo, Phuong* (UiT - The Arctic University of Norway); Wei, Susan (University of Minnesota); Holubova, Anna (Czech Technical University); Muzik, Jan (Czech Technical University); Godtliebsen, Fred (University of Tromsø)

Deep Residual Neural Networks for Automated Basal Cell Carcinoma Detection

Vander Putten, Eric (Bloomberg); Kambod, Ameer* (Wayne State School of Medicine); Kambod, Mobeen (University of Michigan)

A General Method for Predicting Amino Acid Residues Experiencing Hydrogen Exchange

Wang, Boshen (University of Illinois at Chicago); Perez-Rathke, Alan (University of Illinois at Chicago); Li, Renhao (Emory University School of Medicine); Liang, Jie* (University of Illinois at Chicago)

Filter Pruning of Convolutional Neural Networks for Text Classification:

A Case Study of Cancer Pathology Report Comprehension

Yoon, Hong-Jun (Oak Ridge National Laboratory); Robinson, Sarah (Rice University); Christian, Blair (Oak Ridge National Laboratory); Qiu, John (Oak Ridge National Laboratory); Tourassi, Georgia* (Oak Ridge National Laboratory)
19:30-20:30 TuPO.57
Comparison of Deep Learning based Concept Representations for Biomedical Document Clustering........ 349-352
Shah, Setu (Indiana University-Purdue University Indianapolis);
Luo, Xiaoyi* (Indiana University-Purdue University Indianapolis)

19:30-20:30 TuPO.58
Assessment of Soft-Tissue Sarcomas Perfusion using Data-Driven Techniques............................................ 353-356
Venianaki, Maria* (IMT School for Advanced Studies Lucca & Foundation for Research); Karantanas, Apostolos (Radiology, University of Crete, Chairman, Dept. of Medical); de Bree, Eelco (Dept. of Surgical Oncology, Medical School of Crete Univers); Maris, Thomas (Dept. of Radiology, Medical School - University of Crete, H); Kontopodi, Eleftherios (Foundation for Research and Technology – Hellas (FORTH), Institu); Nikiforaki, Katerina (Institute of Computer Science, Foundation for Research and Techn); Salvetti, Ovidio (CNR); Maris, Konstantinos (Foundation for Res. & Tech. Hellas)

19:30-20:30 TuPO.59
Changes in Driving Acceleration Pattern Variability Related to Cognitive and Physical Health ............................................. 357-360
Howcroft, Jennifer Dawn* (Carleton University); Wallace, Raymond Bruce (Carleton University); Goubran, Rafik A. (Carleton University); Marshall, Shawn (University of Ottawa); Porter, Michelle (University of Manitoba); Knoefel, Frank-Dietrich (Bryant University, University of Ottawa, Carleton Univers)

19:30-20:30 TuPO.60
Implementing a Data Management Infrastructure for Big HealthCare Data ........................................................................ 361-364
Kondylakis, Haridimos* (Foundation for Research and Technology Hellas); Koumakis, Lefteris (Foundation for Research and Technology Hellas); Tsiknakis, Manolis (ICS-FORTH); Maris, Konstantinos (Foundation for Res. & Tech. Hellas)

19:30-20:30 TuPO.61
Deep Learning and Handcrafted Feature based Approaches for Automatic Detection of Angiectasia .............. 365-368
Pogorelov, Konstantin* (Simula Research Laboratory); Ostoukhova, Olga (Simula Research Laboratory); Pettlund, Andreas (ForzaSys AS); Halvorsen, Pål (Simula Research Laboratory); De Lange, Thomas (Oslo Univ. Hospital & Institute of Clinical Medicine, Unive); Espeland, Håvard Nygaard (Forzasys AS); Kupka, Tomas (ForzaSys); Griwodz, Carsten (Simula Research Laboratory); Riegler, Michael (Simula Research Laboratory)

19:30-20:30 TuPO.62
Multi-Scale Context-Aware Networks for Quantitative Assessment of Colorectal Liver Metastases ............. 369-372
Xu, Zhaoyang* (Queen Mary University of London); Zhang, Qianni (Queen Mary University of London)

Wednesday, 7 March 2018

WeAT1: 08:50-10:20
BHI Session # 5 – Personalized Health Systems and Public Health Informatics (Oral Session)
Chair: Chawla, Nitesh University of Notre Dame
Co-Chair: Giannakakis, Giorgos Institute of Computer Science (ICS), Foundation for Research and Technology Hellas (FORTH)

08:50-09:05 WeAT1.1
PDCA: An eHealth Service for the Management of Drug Interactions with Complementary and Alternative Medicines* ................................................................. 373-376
Spanakis, Marios* (Post Doc); Sfakianakis, Stelios (Foundation for Research and Technology Hellas); Spanakis, Emmanuel G. (Foundation for Research and Technology – Hellas (FORTH)); Kallergis, George (Foundation for Research and Technology - Hellas); Sakkalis, Vangelis (ICS-FORTH)

09:05-09:20 WeAT1.2
An Investigation of Proteomic Data for Application in Precision Medicine ................................................................. 377-380
Matlock, Kevin (Texas Tech University); Dhruba, Saugato Rahman (Texas Tech University); Nazir, Moazzam (Texas Tech University); Pal, Ranadip* (Texas Tech University)
09:20-09:35 WeAT1.3
Quantification of Biological Responses as Predictors of Cognitive Outcome after Developmental TBI ........ 381-384
Sargolzaei, Saman* (University of California Los Angeles); Cai, Yan (UCLA Neurosurgery); Lee, Deborah (UCLA Neurosurgery); Harris, Neil G (UCLA); Giza, Christopher (UCLA Brain Injury Research Center, Dept of Neurosurgery and Divi)

09:35-09:50 WeAT1.4
Obesity Risk Factors Ranking using Multi-Task Learning ................................................................. 385-388
Wang, Lu (Wayne State University); Zhu, Dongxiao* (Wayne State University); Towner, Elizabeth (Wayne State University); Dong, Ming (Wayne State University)

09:50-10:05 WeAT1.5
CASSIA: An Assistant for Identifying Clinically and Statistically Significant Decreases in Antimicrobial Susceptibility ............................................................. 389-392
Tlachac, Monica* (Worcester Polytechnic Institute); Rundensteiner, Elke (Worcester Polytechnic Institute); Barton, Kerri (Massachusetts Dept. of Public Health); Troppy, Scott (Massachusetts Dept. of Public Health); Beaulac, Kirthana (Tufts Medical Center); Doron, Shira (Tufts Medical Center); Zou, Jian (Worcester Polytechnic Institute)

10:05-10:20 WeAT1.6
Leveraging Blockchain for Retraining Deep Learning Architecture in Patient-Specific Arrhythmia Classification .............................................................. 393-397
Marefat, Michael* (University of Arizona); Juneja, Amit (University of Arizona)

WeBT1: 12:30-14:00 Treasure Island ABC
BHI Session # 6 – Behavioral Informatics and Health Factors Engineering (Oral Session)
Chair: Honda, Masahiro Nara institute of Science and Technology
Co-Chair: Boulton, Elisabeth University of Manchester

12:30-12:45 WeBT1.1
Detecting Suppression of Negative Emotion by Time Series Change of Cerebral Blood Flow using fNIRS ........................................................................ 398-401
Honda, Masahiro* (Nara institute of Science and Technology); Tanaka, Hiroki (Nara Institute of Science and Technology); Sakrani, Sakti (Nara Institute of Science and Technology); Satoshi, Nakamura (Nara Institute of Science and Technology)

12:45-13:00 WeBT1.2
Sensing-Fi: Wi-Fi CSI and Accelerometer Fusion System for Fall Detection ........................................ 402-405
Ramezani, Ramin* (University of California, Los Angeles); Xiao, Yubin (University of California, Los Angeles); Naeim, Arash (University of California, Los Angeles)

13:00-13:15 WeBT1.3
Evaluation of Head Pose Features for Stress Detection and Classification ........................................ 406-409
Giannakakis, Giorgos* (Institute of Computer Science (ICS), Foundation for Research and); Manousos, Dimitris (ICS-FORTH); Chaniotakis, Vaggelis (Foundation for Research and Technology Hellas (FORTH)); Tsiknakis, Manolis (ICS-FORTH)

13:15-13:30 WeBT1.4
Wearable Sensors and Machine Learning Diagnose Anxiety and Depression in Young Children .......... 410-413
McGinnis, Ryan S.* (University of Vermont); McGinnis, Ellen (University of Vermont); Hruschak, Jessica (University of Michigan); Lopez-Duran, Nestor (University of Michigan); Fitzgerald, Kate (University of Michigan); Rosenblum, Katherine L. (University of Michigan); Muzik, Maria (University of Michigan)

13:30-13:45 WeBT1.5
Toward Personalized Sleep-Wake Prediction from Actigraphy ............................................................... 414-417
Khademi, Aria* (Pennsylvania State University); El-Manzalawy, Yasser (Pennsylvania State University); Buxton, Orfeu (Pennsylvania State University); Honavar, Vasant (Pennsylvania State University)
13:45-14:00 WeBT1.6
Leveraging Health and Wellness Platforms to Understand Childhood Obesity: A Usability Pilot of FitSpace
Feldman, Keith (University of Notre Dame); Duarte Ow, Mayra (University of Notre Dame); Mikels-Carrasco, Waldo (University of Notre Dame); Chawla, Nitesh* (University of Notre Dame)

WeDT1: 15:30-17:00 Treasure ABC
BHI Session # 7 – Wearable Systems and Mobile Health (Oral Session)
Chair: Cho, Dong-Ho Korea Advanced Institute of Science and Technology (KAIST)
Co-Chair: Jin, Zhanpeng University at Buffalo, SUNY

15:30-15:45 WeDT1.1 Physiological Changes Over the Course of Cognitive Bias Modification for Social Anxiety
Boukhechba, Mehdi* (University of Virginia); Gong, Jiaqi (University Maryland, Baltimore County); Kowsari, Kamran (University of Virginia); Ameko, Mawulolo (University of Virginia); Fua, Karl (University of Virginia); Chow, Philip (University of Virginia); Huang, Yu (University of Michigan); Teachman, Bethany (University of Virginia); Barnes, Laura (University of Virginia)

15:45-16:00 WeDT1.2 Context-Aware Reinforcement Learning-Based Mobile Cloud Computing for Telemonitoring
Wang, Xiaoliang (SUNY-Binghamton University); Wang, Wei (University at Buffalo, The State University of New York); Jin, Zhanpeng* (University at Buffalo, SUNY)

16:00-16:15 WeDT1.3 ARIMA-Based Motor Anomaly Detection in Schizophrenia Inpatients
Tron, Talia* (Hebrew University of Jerusalem, ELSC); Resheff, Yehezkel (Hebrew University of Jerusalem); Bazhmim, Mikhail (Sha'ar Menashe MHC); Weinshall, Daphna (Hebrew University of Jerusalem); Peled, Abraham (Technion)

16:15-16:30 WeDT1.4 Cluster-Based Approach to Improve Affect Recognition from Passively Sensed Data
Ameko, Mawulolo* (University of Virginia); Cai, Lihua (University of Virginia); Boukhechba, Mehdi (University of Virginia); Daros, Alexander (University of Virginia); Chow, Philip (University of Virginia); Teachman, Bethany (University of Virginia); Gerber, Matthew (University of Virginia); Barnes, Laura (University of Virginia)

16:30-16:45 WeDT1.5 Comparison and Combination of Electrocardiogram, Electromyogram and Accelerometry for Tonic-Clonic Seizure Detection in Children
De Cooman, Thomas* (KU Leuven, Dept. of Electrical Engineering-ESAT, STADIUS); Varon, Carolina (Katholieke Universiteit Leuven); Van de Vel, Anouk (University Hospital of Antwerp); Ceulemans, Berten (University Hospital of Antwerp); Lagae, Lieven (University Hospital of Leuven); Van Huffel, Sabine (Katholieke Universiteit Leuven)

16:45-17:00 WeDT1.6 Deep Learning based Atrial Fibrillation Detection using Wearable Photoplethysmography Sensor
Aliamiri, Alireza* (Samsung); Shen, Yichen (Samsung Strategy and Innovation Center)