IWANN INTERNATIONAL WORK CONFERENCE ON ARTIFICIAL NEURAL NETWORKS

PROGRAM

12-14 June, 2019

Gran Canaria (SPAIN)

IWANN 2019 Short Program

Wednesday, June 12th 2019		
8:30-9:00	REGISTRATION DESK *(start at 8:30h but it is opened during all the conference)*	
9:00-11:00	Session A.1: Deep learning beyond convolution	Session B.1: Computational Intelligence Methods for Time Series (Part. I)
11:00-11:30	COFFEE BREAK	
11:30-13:00	Session A.2: Machine Learning in Vision and Robotics (Part.I)	Session B.2: Computational Intelligence Methods for Time Series (Part. II)
13:00-14:00	OPENING PLENARY LECTURE	
14:00-16:00	LUNCH	
16:00-17:00	Session A.3: Computational Biology and Bioinformatics	Session B.3: Advances in Computational Intelligence (Part. I)
17:00-17:30	COFFEE BREAK	
17:30-18:30	Session A.4: Evolutionary and genetic algorithms	Session B.4: Data-driven Intelligent Transportation Systems
18:30-19:30	Session A.5: Machine learning in weather observation and forecasting	Session B.5: Soft Computing
20:00	Welcome cocktail (Conference venue)	

NOTE:

1.- During the Thursday and Friday the **Workshop on Artificial Intelligence** in Nanophotonics will be held.

2.- Thursday will be held the Tutorial on **Transfer Learning for Deep Learning**. The tutorial will include a practical session with connection to the Barcelona Supercomputing Center (**BSC**). For more details visit the IWANN website.

Thursday, June 13th, 2019

Time		
9:00-11:00	Session A.6: Machine Learning in Vision and Robotics (Part.II)	Session B.6: Human Activity Recognition
11:00-11:30	COFFEE BREAK	
11:30-12:30	Tutorial on Transfer Learning for Deep Learning	Session B.7: New and future tendencies in Brain-Computer Interface systems
12:30-13:20	Session A.7: Machine Learning in Vision and Robotics (Part.III)	
13:20-14:20	PLENARY LECTURE	
14:20-16:00	LUNCH	
16:00-17:20	Session A.8: Mathematics for neural networks	Session B.8: Application of Computational Intelligence
17:20-18:30	Session A.9: Deep learning models in healthcare and biomedicine	Session B.9: Random-Weights Neural Networks
18:30-19:00	COFFEE BREAK	
18:30-19:45	Session 10. Poster Session/ Demo Session	
20:30	Gala Dinner at Hotel Baobas	

Friday, June 14th, 2019

Time		
9:00-11:00	Session A.11: Software Testing and Intelligent Systems	Session B.11: Deep Learning and Natural Language Processing
11:00-11:30	COFFEE BREAK	
11:30-12:30	PLENARY LECTURE	
12:30-13:10	Session A.12: Advances in Computational Intelligence (Part. II)	Session B.12: Image and Signal Processing
13:10-14:10	CLOSING PLENARY LECTURE	

IWANN 2019 FULL PROGRAM

Wednesday, June 12th 2019

Session A.1: Deep learning beyond convolution

Chairman: Dr. Miguel Atencia

Fuzzy preprocessing for semi-supervised image classification in modern industry
Petr Hurtik and Vojtěch Molek

Interpretability of Recurrent Neural Networks Trained on Regular Languages
Christian Oliva and Luis F. Lago-Fernández

Unsupervised learning as a complement to convolutional neural network classification in the analysis of saccadic eye movement in spino-cerebellar ataxia type 2
Catalin Stoean, Ruxandra Stoean, Roberto Antonio Becerra-Garcia, Rodolfo Garcia-Bermudez, Miguel Atencia, Francisco Garcia-Lagos, Luis Velazquez-Perez and Gonzalo Joya

Scale-Space Theory, F-transform kernels and CNN Realization
Vojtěch Molek and Irina Perfilieva

Numerosity representation in InfoGAN: an empirical study
Andrea Zanetti, Alberto Testolin, Marco Zorzi and Pawel Wawrzynski

Dynamic clustering of time series with Echo State Networks
Miguel Atencia, Catalin Stoean, Ruxandra Stoean, Roberto Rodríguez-Labrada and Gonzalo Joya

Session B.1: Computational Intelligence Methods for Time Series (Part. I)

Chairman: Dr. Hector Pomares

Using Artificial Neural Networks for recovering the Value-of-Travel-Time distribution
Sander Van Cranenburgh and Marco Kouwenhoven

Sparse, Interpretable and Transparent Predictive Model Identification for Healthcare Data Analysis
Leon Wei

The Generalized Sleep Spindles Detector: A Generative Model Approach on Single-Channel EEGs

Carlos Loza and Jose Principe

Anomaly detection for bivariate signals

Marie Cottrell, Cynthia Faure, Jérôme Lacaille and Madalina Olteanu

A Scalable Long-Horizon Forecasting of Building Electricity Consumption

Naveen Kumar Thokala, Spoorthy Paresh and Girish Chandra M

Long-Term Forecasting of Heterogenous Variables with Automatic Algorithm Selection

Naveen Kumar Thokala, Kriti Kumar, Girish Chandra M and Ravi Kumar Karumanchi

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Session A.2: Machine Learning in Vision and Robotics (Part. I)

Chairman: Dr. Enrique Dominguez

Real-time Logo Detection in Brand-related Social Media Images

Oscar Orti, Ruben Tous, Mauro Gomez, Jonatan Poveda, Leonel Cruz and Otto Wust

Towards Automatic Crack Detection by Deep Learning and Active Thermography

Ramón Moreno, Ander Muniategui, Eider Gorostegui and Pablo López de Uralde

Optimization of Convolutional Neural Network ensemble classifiers by Genetic Algorithms

Miguel A. Molina-Cabello, Cristian Accino, Ezequiel López-Rubio and Karl Thurnhofer-Hemsi

One Dimensional Fourier Transform on Deep Learning for Industrial Welding Quality Control

Ander Muniategui, Jon Ander Del Barrio, Ramón Moreno, Xabier Angulo-Vinuesa, Manuel Masenlle and Aitor García de la Yedra

Video categorisation mimicking text mining

Cristian Ortega-Leon, Pedro A. Marín-Reyes, Javier Lorenzo-Navarro, Modesto Castrillon-Santana and Elena Sanchez-Nielsen

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Session B.2: Computational Intelligence Methods for Time Series (Part. II)

Chairman: Dr. Hector Pomares

Improving Classification of Ultra-High Energy Cosmic Rays Using Spacial Locality by means of a Convolutional DNN

Francisco Carrillo-Perez, Alberto Guillén, Juan Miguel Carceller and Luis Javier Herrera

Model and Feature Aggregation based Federated Learning for Multi-sensor Time Series Trend Following

Yao Hu, Xiaoyan Sun, Yang Chen and Zishuai Lu

A Robust Echo State Network for Recursive System Identification

Renan Bessa and Guilherme Barreto

Random Hyper-Parameter Search-Based Deep Neural Network for Power Consumption Forecasting

J. F. Torres, D. Gutiérrez-Avilés, A. Troncoso and F. Martínez-Álvarez

A first approximation to the effects of classical time series preprocessing methods on LSTM accuracy

Daniel Trujillo Viedma, Antonio Jesús Rivera Rivas, Francisco Charte and Maria Jose Del Jesus

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OPENING PLENARY LECTURE:
Prof. Jose C. Principe
University of Florida, USA.

Session A.3: Computational Biology and Bioinformatics

Chairman: Dr. Fernando Rojas

Feature selection and assessment of lung cancer sub-types by applying predictive models

Sara Gonzalez, Daniel Secilla, Juan M. Gálvez, Ignacio Rojas and Luis Herrera

Energy-time Analysis of Convolutional Neural Networks Distributed on Heterogeneous Clusters for EEG classification

Juan José Escobar Pérez, Julio Ortega, Miguel Damas, John Q. Gan and Rukiye Savran Kiziltepe

The Frequent Complete Subgraphs in the Human Connectome
  Mate Fellner, Balint Varga and Vince Grolmusz

Session B.3: Advances in Computational Intelligence (Part. I)

Chairman: Dr. Marie Cottrell and Dr. Rossella Cancelliere

Towards Applying River Formation Dynamics in Continuous
Optimization Problems
  Pablo Rabanal, Ismael Rodriguez and Fernando Rubio

Go for Parallel Neural Networks
  David Turner and Erich Schikuta

Evolving Balancing Controllers for BipedCharacters in Games
  George Palamas and Christopher Schinkel Carlsen

From Iterative Threshold Decoding to a Low-Power High-Speed Analog
VLSI Decoder Implementation
  Werner Teich, Heiko Teich and Giuseppe Oliveri

Session A.4: Evolutionary and genetic algorithms

Chairman: Dr. Hua-Liang (Leon)Wei

The problems of selecting problems
  *Alberto De La Encina, Natalia Lopez, Ismael Rodriguez and Fernando
  Rubio*

Unsupervised learning Bee Swarm Optimization metaheuristic
  *Souhila Sadeg, Leila Hamdad, Haouas Mouloud, Abderrahmane
  Kouider, Karima Benatchba and Zineb Habbas*

QBSO-FS: a Reinforcement Learning based Bee Swarm Optimization
metaheuristic for Feature Selection
  *Souhila Sadeg, Hamdad Leila, Amine Riad Remache, Mehdi
  Nedjmeddine Karech, Karima Benatchba and Zineb Habbas*

Session B.4: Data-driven Intelligent Transportation Systems

Chairman: Dr. Ignacio J. Turias Domínguez and Dr. Lipika Deka

A deep ensemble neural network approach to improve predictions of
container inspection volume
  *Daniel Urda Muñoz, Juan Jesus Ruiz Aguilar, Javier Gonzalez Enrique
  and Ignacio Turias Dominguez*

Ro-Ro freight forecasting based on a ANN-SVR hybrid approach. Case of the Strait of Gibraltar

José Antonio Moscoso-Lopez, Juan Jesús Ruiz Aguilar, Daniel Urda Muñoz, Francisco Javier González-Enrique and Ignacio José Turias Dominguez

Infering Air Quality from Traffic Data using Transferable Neural Network Models

Miguel A. Molina-Cabello, Benjamin N. Passow, Enrique Dominguez, David Elizondo and Jolanta Obszynska

Session A.5: Machine learning in weather observation and forecasting

Chairman: Dr. Juan Luis Navarro-Mesa, Dr. Antonio Ravelo-García and Dr. Carmen Paz Suárez Araujo

A Deeper Look into 'Deep learning of aftershock patterns following large earthquakes': Illustrating First Principles in Neural Network Physical Interpretability

Arnaud Mignan and Marco Broccardo

Boosting Wavelet Neural Networks Using Evolutionary Algorithms for Short-Term Wind Speed Time Series Forecasting

Hua-Liang Wei

An Approach to Rain Detection using Sobel Image Preprocessing and Convolutional Neuronal Networks

José A. Godoy-Rosario, Antonio G. Ravelo-García, Pedro J. Quintana-Morales and Juan L. Navarro-Mesa

On the application of a recurrent neural network for rainfall quantification based on the received signal from microwave links

Iván Guerra-Moreno, Juan L. Navarro-Mesa, Antonio G. Ravelo-García and Carmen Paz Suarez-Araujo

Ambient Temperature Estimation Using WSN Links and Gaussian Process Regression

Sofia Inácio and Joaquim Azevedo

Session B.5: Soft Computing

Chairman: Dr. Christina Klüver

Many-Objective Cooperative Co-Evolutionary Feature Selection: A Lexicographic Approach
  Jesús González, Julio Ortega, Miguel Damas and Pedro Martín-Smith

An Online Tool for Unfolding Symbolic Fuzzy Logic Programs
  Gines Moreno and José Antonio Riaza Valverde

Ensemble of Attractor Networks for 2D Gesture Retrieval
  Carlos Davila, Mario Gonzalez, Jorge-Luis Perez-Medina, David Dominguez, Angel Sanchez and Francisco B. Rodriguez

Thursday, June 13th, 2019

Session A.6: Machine Learning in Vision and Robotics (Part. II)

Chairman: Dr. Enrique Dominguez

Using inferred gestures from semg signal to teleoperate a domestic robot for the disabled

Nadia Nasri, Francisco Gomez-Donoso, Sergio Orts-Escolano and Miguel Cazorla

3D Orientation Estimation of Pharmaceutical Minitablets with Convolutional Neural Network

Gregor Podrekar, Domen Kitak, Andraž Mehle, Domen Rački, Rok Dreu and Dejan Tomaževič

Flatness Defect Detection and Classification in Hot Rolled Steel Strips Using Convolutional Neural Networks

Marco Vannocci, Antonio Ritacco, Angelo Castellano, Filippo Galli, Marco Vannucci, Vincenzo Iannino and Valentina Colla

Image Completion with Filtered Low-Rank Tensor Train Approximations

Rafal Zdunek, Krzysztof Fonal and Tomasz Sadowski

Knowledge Construction Through Semantic Interpretation of Visual Information

Cristiano Russo, Kurosh Madani and Antonio Maria Rinaldi

Ensemble Transfer Learning Framework for Vessel Size Estimation from 2D Images

Mario Miličević, Krunoslav Žubrinić, Ivan Grbavac and Ana Kešelj

Analyzing Digital Image by Deep Learning for Melanoma Diagnosis

Karl Thurnhofer-Hemsi and Enrique Dominguez

Session B.6: Human Activity Recognition

Chairman: Dr. Mattias Patzfold

Detecting Driver Drowsiness in Real Time through Deep Learning based Object Detection

Haroon-Ur-Rashid Khan, Nabit Bajwa, Muhammad Faique Shakeel and Ahmad Anwaar

The Influence of Human Walking Activities on the Doppler
Characteristics of Non-Stationary Indoor Channel Models

*Muhammad Muaaz, Ahmed Abdelmonem Abdelgawwad and Matthias
Uwe Pätzold*

A Neural Network for Stance Phase detection in smart cane users

*Juan Rafael Caro-Romero, Joaquin Ballesteros, Francisco Garcia-Lagos,
Cristina Urdiales and Francisco Sandoval*

Closed-Eye Gaze Gestures: Detection and Recognition of Closed-Eye
Movements with Cameras in Smart Glasses

Rainhard Dieter Findling, Le Ngu Nguyen and Stephan Sigg

Workout Type Recognition and Repetition Counting with CNNs from 3D
Acceleration Sensed on the Chest

*Kacper Skawinski, Ferran Montraveta Roca, Rainhard Dieter Findling
and Stephan Sigg*

RF-Based Human Activity Recognition: A Non-Stationary Channel
Model Incorporating the Impact of Phase Distortions

Alireza Borhani and Matthias Paetzold

Session A.7: Machine Learning in Vision and Robotics (Part. III)

Chairman: Dr. Enrique Dominguez

BatchNorm Decomposition and Deep Neural Network Explanation

Lucas Hui and Alex Binder

Trainable Thresholds for Neural Network Quantization

*Alexander Goncharenko, Andrey Denisov, Sergey Alyamkin and Evgeny
Terentev*

Tandem Modelling based Emotion Recognition in Videos

Salma Kasraoui, Zied Lachiri and Kurosh Madani

Session B.7: New and future tendencies in Brain-Computer
Interface systems

Chairman: Dr. Ricardo Ron Angevín and Dr. Ivan Volosyak

Preliminary results using a P300 brain-computer interface speller: A
possible interaction effect between presentation paradigm and set of stimuli

*Álvaro Fernández-Rodríguez, María Teresa Medina-Juliá, Francisco
Velasco-Álvarez and Ricardo Ron-Angevin*

A Comparison of cVEP-Based BCI-Performance between Different Age Groups
  Felix Gembler, Piotr Stawicki, Aya Rezeika and Ivan Volosyak

Remote Steering of a Mobile Robotic Car by means of VR-based SSVEP BCI
  Piotr Stawicki, Felix Gembler, Roland Grichnik and Ivan Volosyak

A VR-Based Hybrid BCI Using SSVEP and Gesture Input
  Roland Grichnik, Mihaly Benda and Ivan Volosyak

Word prediction support model for SSVEP-based BCI web speller
  Abdul Saboor, Mihaly Benda, Felix Gembler and Ivan Volosyak

Is stress state an important factor in the BCI-P300 Speller Performance?
  Liliana Garcia, Maud Zak, Celestin Grenier, Solene Hanrio, Dorine Henry, Romain Randriamanantena, Catherine Semal, Jean Marc Andre, Veronique Lespinet-Najib and Ricardo Ron-Angevin

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PLENARY LECTURE:
Prof. Marin Soljacic
Massachusetts Institute of Technology, USA.

Session A.8: Mathematics for neural networks

Chairman: Dr. Gonzalo Joya

A neural network-based approach to sensor and actuator fault-tolerant control
  Marcin Pazera, Marcin Mrugalski, Marcin Witczak and Mariusz Bucikowski

Estimating Supervisor Set using Machine Learning and Optimal Control
  Konrad Kosmatka and Andrzej Nowakowski

A new Online Class-Weighting approach with Deep Neural Networks for image segmentation of Highly Unbalanced Glioblastoma Tumors
  Mostefa Ben Naceur, Rostom Kachouri, Mohamed Akil and Rachida Saouli

Validation of unimodal non-Gaussian clusters
  Luis Lago, Jesús Aragón and Manuel Sánchez-Montañés

About Filter Criteria for Feature Selection in Regression

Alexandra Degeest, Michel Verleysen and Benoît Frénay

Session B.8: Application of Computational Intelligence

Chairman: Dr. Petr Hurtik

A New Classification Method for Predicting the Output of Dye Process in Textile Industry by Using Artificial Neural Networks

Ahsen Noor Subhopoto, Mehmet Akar and Sencer Sultanoglu

A Clinical Decision Support System to Help the Interpretation of Laboratory Results and to Elaborate a Clinical Diagnosis in Blood Coagulation Domain

Francois Lasson, Alban Delamarre, Pascal Redou and Cedric Buche

Adversarial Examples are a Manifestation of the Fitting-Generalization Trade-off

Oscar Deniz Suarez, Noelia Vallez and Gloria Bueno

Machine Learning as a Means to Adapt Requirement Changes for SDN Deployment Process in SDN Migration

H.W. Siew, S.C. Tan, J.N. Binlun, and C.K. Lee

Session A.9: Deep learning models in healthcare and biomedicine

Chairman: Dr. Leonardo Franco and Dr. Ruxandra Stoean

Convolutional neural network learning versus traditional segmentation for the approximation of the degree of defective surface in titanium for implantable medical devices

Ruxandra Stoean, Catalin Stoean, Adriana Samide and Gonzalo Joya

Convolutional Neural Networks and Feature Selection for BCI with Multiresolution Analysis

Javier León, Julio Ortega and Andrés Ortiz

Attention-based Recurrent Neural Networks (RNNs) for Short Text Classification: An Application in Public Health Monitoring

Oduwa Edo-Osagie, Iain Lake, Obaghe Edeghere and Beatriz De La Iglesia

A transfer-learning approach to feature extraction from cancer transcriptomes with deep autoencoders

Guillermo López-García, José M. Jerez, Leonardo Franco and Francisco J. Veredas

Session B.9: Random-Weights Neural Networks

Chairman: Dr. Claudio Gallicchio

Echo State Networks with Artificial Astrocytes and Hebbian Connections

Peter Gergel and Igor Farkaš

Richness of Deep Echo State Network Dynamics

Claudio Gallicchio and Alessio Micheli

Image classification and retrieval with random depthwise signed convolutional neural networks

Yunzhe Xue and Usman Roshan

Improving Randomized Learning of Feedforward Neural Networks by Appropriate Generation of Random Parameters

Grzegorz Dudek

Session 10: Poster Session

Chairman: Dr. Miguel Atencia

Voice Command Recognition Using Statistical Signal Processing and SVM

Stanislaw Osowski and Alexandra Osowska

Multiple sclerosis detection via wavelet entropy and feedforward neural network trained by adaptive genetic algorithm

Han Ji and Hou Shou Ming

Computational intelligence approach for liquid-gas flow regime classification based on frequency domain analysis of signals from scintillation detectors

Robert Hanus, Marcin Zych and Marek Jaszczur

Enterprise System Response Time Prediction Using Non-Stationary Function Approximations

Ravikumar Karumanchi, Kriti Kumar, Naveen Kumar Thokala and Girish Chandra

Bistable Sigmoid Networks

Stanislav Uschakow, Jörn Fischer and Thomas Ihme

SGD-based Wiener Polynomial Approximation for Missing Data Recovery in Air Pollution Monitoring Dataset

Ivan Izonin, Michal Greguš, Roman Tkachenko, Mykola Logoida, Oleksandra Mishchuk and Yurii Kynash

Heavy duty vehicle fuel consumption modelling based on exploitation data by using artificial neural networks

Oskar Wysocki, Lipika Deka, David Elizondo, Jacek Kropiwnicki and Jacek Czyżewicz

Use of complex networks for the automatic detection and the diagnosis of Alzheimer's disease

Aruane Pineda, Fernando Ramos, Luiz Betting and Andriana Campanharo

Detection of Cancerous Lesions with Neural Networks

Hassan El-Khatib, Dan Popescu and Loretta Ichim

Digital Implementation of a Biological-Plausible Model For Astrocyte Ca2+ Oscillations

Majid Ahmadi, Moslem Heidarpur and Arash Ahmadi

Custom-Made Monitor For Easy High-Frequency SSVEP Stimulation

Mihaly Benda, Felix Gembler, Piotr Stawicki, Sadok Ben-Salem, Zahidul Islam, Arne Vogelsang and Ivan Volosyak

Toward robust mispronunciation detection via audio-visual speech recognition

Mahdie Karbasi, Steffen Zeiler, Jan Freiwald and Dorothea Kolossa

Multiple Linear Regression based on Coefficients Identification using Non-Iterative SGTM Neural-Like Structure

Ivan Izonin, Roman Tkachenko, Natalia Kryvinska, Pavlo Tkachenko and Michal Greguš

Detector of small objects with application to the license plate symbols

Alexey Alexeev, Yuriy Matveev, Georgy Kukharev, Sattam Almatarneh and Anton Matveev

A deep learning approach to anomaly detection in the Gaia space mission data

Alessandro Druetto, Marco Roberti, Rossella Cancelliere, Davide Cavagnino and Mario Gai

A Fixed-Size Pruning Approach for Optimum-Path Forest

Leonardo Costa, Gabriel Barbosa and Ajalmar Rêgo Da Rocha Neto

Constraint Exploration of Convolutional Network Architectures with Neuroevolution

Jonas Dominik Homburg, Michael Adams, Michael Thies, Timo Korthals, Marc Hesse and Ulrich Rückert

Impact of genetic algorithms operators on association rules extraction

Leila Hamdad, Karima Benatchba, Ahcene Bendjoudi and Ournani Zakaria

Failure Diagnosis of Wind Turbine Bearing Using Feature Extraction and a Neuro-Fuzzy Inference System (ANFIS)

Mojtaba Kordestani, Milad Rezamand, Rupp Carriveau, David Ting and Mehrdad Saif

Automatic Identification of Interictal Epileptiform Discharges with the Use of Complex Networks

Gustavo Tomanik, Luiz Betting and Andriana Campanharo

Red-Black Tree based NeuroEvolution of Augmenting Topologies

William R. Arellano, Paul A. Silva, Maria F. Molina, Saulo Ronquillo and Francisco Ortega Zamorano

On possibilities of human head detection for person flow monitoring system

Petr Dolezel, Dominik Stursa and Pavel Škrabánek

Automatic time series forecasting with GRNN: a comparison with other models

Francisco Martínez, Francisco Charte, Antonio Jesús Rivera Rivas and María Pilar Frías Bustamante

Improving Online Handwriting Text/Non-Text Classification Accuracy Under Condition Of Stroke Context Absence

Serhii Polotskyi, Ivan Deriuga, Tetiana Ignatova, Volodymyr Melnyk and Hennadii Azarov

An efficient framework to detect and avoid driver sleepiness based on YOLO with Haar cascades and an intelligent agent

Belmekki Ghizlene, Mekkakia Maaza Zoulikha and Hector Pomares

Sparse Least Squares Support Vector Machines based on Genetic Algorithms: a Feature Selection Approach

Pedro Araujo and Ajalmar Rocha Neto

Performance of Classifiers on Noisy-Labeled Training Data: An Empirical Study on Handwritten Digit Classification Task

Irfan Ahmad

Application of Artificial Neural Network Model for Cost Optimization in a Single-Source, Multi-Destination System

Modestus Okwu, Vitalian Uzoma Chukwu and Onyewuchi Oguoma

Waste classification system using image processing and convolutional neural networks

Janusz Bobulski and Mariusz Kubanek

Exploring classification, clustering, and its limits in a compressed hidden space of a single layer neural network with random weights

Meiyan Xie and Usman Roshan

Fingerprint Retrieval using a Specialized Ensemble of Attractor Networks

Mario Gonzalez, Carlos Davila, David Dominguez, Angel Sanchez and Francisco B. Rodriguez

Multi-mother wavelet neural network training using ge-netic algorithm-based approach to optimize and improves the robustness of gradient-descent algorithms: 3d mesh deformation application

Naziha Dhibi and Chokri Ben Amar

Deep learning based ship movement prediction system architecture

Alberto Alvarellos, Andrés Figuero, José Sande, Enrique Peña and Juan Rabuñal

Using Boolean- and Self-Enforcing-Networks for Mathematical E-Tutorial Systems

Christina Kluever and Juergen Kluever

Unsupervised Inflection Generation Using Neural Language Modeling

Octavia-Maria Şulea and Steve Young

Dementia detection and classification from MRI images using Deep Neural Network and Transfer Learning

Amen Bidani, Mohamed Salah Gouider and Carlos M. Travieso-González

Classification with Rejection Option Using the Fuzzy ARTMAP neural network

Fancisco Felipe Sousa, Alan Lucas Silva Matias and Ajalmar Rego Da Rocha Neto

Deep Residual Learning for Human Identification Based on Facial Landmarks

Abdelgader Abdelwhab and Serestina Viriri

A genetic algorithm and neural network stacking ensemble approach to improve NO2 level estimations

Javier González-Enrique, Juan Jesús Ruiz-Aguilar, José Antonio Moscoso-López, Steffanie Van Roode, Daniel Urda and Ignacio Turias

A New Graph Based Brain Connectivity Measure

Addisson Salazar, Gonzalo Safont and Luis Vergara

Combination of multiple classification results based on K-class alpha integration

Gonzalo Safont, Addisson Salazar and Luis Vergara

Integration of CNN into a Robotic Architecture to build Semantic Maps of Indoor Environments

David Fernandez Chaves, Jose Raul Ruiz Sarmiento, Nicolai Petkov and Javier Gonzalez Jimenez

Improving wearable activity recognition via fusion of multiple equally-sized data subwindows

Oresti Banos, Juan Manuel Galvez, Miguel Damas, Alberto Guillen, Luis Herrera, Hector Pomares, Ignacio Rojas and Claudia Villalonga

Friday, June 14th, 2019

Session A.11: Software Testing and Intelligent Systems

Chairman: Dr. Juan Boubeta, Dr. Pablo C.Cañizares and Dr. Gregorio Diaz

GPTSG: A Genetic Programming test suite generator using Information Theory measures

Alfredo Ibias Martínez, David Griñán and Manuel Núñez

An Intelligent System Integrating CEP and Colored Petri Nets for Helping in Decision Making about Pollution Scenarios

Gregorio Díaz, Enrique Brazález, Hermenegilda Macia, Juan Boubeta-Puig and Valentín Valero

Using genetic algorithms to generate test suites for FSMs

Miguel Benito, Inmaculada Medina-Bulo, Mercedes Merayo and Manuel Núñez

Conformance relations for fuzzy automata

Iván Calvo, Mercedes Merayo, Manuel Núñez and Francisco Palomo-Lozano

Investigating the Effectiveness of Mutation Testing Tools in the Context of Deep Neural Networks

Nour Chetouane, Lorenz Klampfl and Franz Wotawa

Session B.11: Deep Learning and Natural Language Processing

Chairman: Dr. Leonor Becerra-Bonache and Dr. Luis Javier Herrera

Multi-input CNN for text classification in commercial scenarios.

Zuzanna Parcheta, Germán Sanchis-Trilles, Francisco Casacuberta and Robin Redahl

Applying Sentiment Analysis with cross-domain models to evaluate User eXperience in Virtual Learning Environments

Rosario Sanchis-Font, Maria Jose Castro-Bleda and José Ángel González

Visual disambiguation of prepositional phrase attachments: multimodal machine learning for syntactic analysis correction

Sebastien Delecraz, Leonor Becerra-Bonache, Alexis Nasr, Frederic Bechet and Benoit Favre

Meeting Summarization, a Challenge for Deep Learning
  Francois Jacquenet, Marc Bernard and Christine Largeron

Semantic Fake News Detection: A Machine Learning Perspective
  Adrian M.P. Brasoveanu and Razvan Andonie

On Transfer Learning for Detecting Abusive Language Online
  Ana Sabina Uban and Liviu P. Dinu

PLENARY LECTURE:
Dr. Aureli Soria-Frisch
Starlab, Spain

Session A.12: Advances in Computational Intelligence (Part.II)

Chairman: Dr. Andreu Catala

Device-free passive human counting with Bluetooth Low Energy beacons
  Maximilian Münch and Frank-Michael Schleif

Combining Very Deep Convolutional Neural Networks and Recurrent
Neural Networks for Video Classification
  Rukiye Savran Kiziltepe, John Q. Gan and Juan José Escobar

Session B.12: Image and Signal Processing

Chairman: Dr. Ignacio Rojas

Acceleration of Online Recognition of 2D Sequences using Deep
Bidirectional LSTM and Dynamic Programming
  Dmytro Zhelezniakov, Viktor Zaytsev and Olga Radyvonenko

Link Prediction Regression for Weighted Co-authorship Networks
  Ilya Makarov and Olga Gerasimova

CLOSING PLENARY LECTURE:
Dr. Nuria Oliver (Video-Conference)

Director of Research in Data Science @ Vodafone

Virtual Presentations

Chairman: Dr. Miguel Atencia and Dr. Ignacio Rojas

A Novel framework for Fine Grained Action Recognition in Soccer
Ganesh Yaparla, Sri Teja Allaparthi, Sai Krishna Munnangi and Garimella Rama Murthy

A Serious Game to build a Database for ErrP Signal Recognition
Adam Pinto, Guilherme Nardari, Marco Mijam, Edgard Morya and Roseli Romero

Security Testing for Multi-Agent Systems
Damas Gruska and M.Carmen Ruiz

Some insights and observations on depth issues in deep learning networks
Arindam Chaudhuri

DeepTrace: A Generic Framework for Time Series Forecasting
Nithish Moudhgalya, Siddharth Divi, Adithya Ganesan, Sharan Sundar Sankaran and Vineeth Vijayaraghavan

OnMLM: An Online Formulation for The Minimal Learning Machine
Alan Matias, Cesar Mattos, Tommi Kärkkäinen, João Gomes and Ajalmar Rocha Neto

Searching the shortest pair of edge-disjoint paths in a Communication Network. A Fuzzy approach.
Lissette Valdés Valdés, Sira María Allende Alonso, Alfonso Ariza Quintana and Gonzalo Joya Caparrós

AL4LA: Active Learning for Text Labeling Based on Paragraph Vectors
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Document model with attention bidirectional recurrent network for gender identification
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