

IWSSIP 2020 Program

UTC -3	July 1st, 2020 (Wednesday)	July 2nd, 2020 (Thursday)	July 3rd, 2020 (Friday)		
09:00 am 09:30 am	Opening Ceremony (C1)	Technical Session (TS1)	Technical Session (TS2)	Technical Session (TS9)	Technical Session (TS10)
09:30 am 10:00 am					
10:00 am 10:30 am	Keynote Talk (KT1)	Technical Session (TS3)	Technical Session (TS4)	Technical Session (TS11)	Special Session (SC1)
10:30 am 11:00 am					
11:00 am 11:30 am	Break	Break	Break	Break	Break
11:30 am 12:00 pm					
12:00 pm 12:30 pm	Keynote Talk (KT3)	Technical Session (TS5)	Technical Session (TS6)	Technical Session (TS12)	Special Session (SC2)
12:30 pm 01:00 pm					
01:00 pm 01:30 pm	Tutorial (T1)	Technical Session (TS7)	Technical Session (TS8)	Technical Session (TS13)	Technical Session (TS14)
01:30 pm 02:00 pm					
02:00 pm 02:30 pm	Tutorial (T2)	Closing and Award Ceremony (C2)	Closing and Award Ceremony (C2)	Closing and Award Ceremony (C2)	Closing and Award Ceremony (C2)
02:30 pm 03:00 pm					
03:00 pm 03:30 pm	Closing and Award Ceremony (C2)	Closing and Award Ceremony (C2)	Closing and Award Ceremony (C2)	Closing and Award Ceremony (C2)	Closing and Award Ceremony (C2)
03:30 pm 04:00 pm					



Ceremonies

C1 Opening Ceremony

C2 Closing and Award Ceremony



Plenary Speaker and Keynote Talk

PS Branka Zovko-Cihlar

KT1 Panos Liatsis

KT2 Jonathan Huang

KT3 Javier Felip Leon



Tutorial

T1 Aristófanés Corrêa Silva and Luis Fernando Marin Sepulveda

T2 Andre B. Cavalcante



Technical Session

TS1 Biomedical Signal Processing and Analysis I

TS2 Biomedical Signal Processing and Analysis II

TS3

TS4 Image-Based Detection, Recognition and Classification II

TS5 Signal Processing

TS6 Image Processing I

TS7 Machine Learning & Prediction

TS8 Image Processing II

TS9 Biomedical Signal Processing and Analysis III

TS10 Face Recognition and Biometry

TS11 Biomedical Signal Processing and Analysis IV

TS12 Speech and Audio Processing

TS13 Networks and Wireless Communications

TS14 Human Computer Interaction and Education



Special Session

SC1 Signal and Image Processing for Smart Cities I

SC2 Signal and Image Processing for Smart Cities II

Technical Sessions

TS1 - Biomedical Signal Processing and Analysis I

July 2nd, 2020 — 9:00 am to 10:30 am (UTC -3)

Chairs: Marcelo Zanchetta do Nascimento and Natalia Castro Fernandes

Functional and Effective Connectivity Characterization of Absence Seizures

Viviane Tenório, Juliana M. de Assis and Francisco Marcos de Assis

Automated Nuclei Segmentation on Dysplastic Oral Tissues Using CNN

Dali F. D. dos Santos, Thaina Tosta, Adriano Silva, Paulo de Faria, Bruno Travençolo and Marcelo Zanchetta

Segmentation of Plantar Foot Thermal Images: Application to Diabetic Foot Diagnosis

Doha Bouallal, Asma Bougrine, Hassan Douzi, Rachid Harba, Raphael Canals, Luis Alberto Vilcahuaman Cajacuri and Hugo Arbañil

Multilevel CNN for Angle Closure Glaucoma Detection using AS-OCT Images

Marcos Melo Ferreira, Giovanna Pavani Esteve, Geraldo Braz Junior, João Dallyson Sousa de Almeida, Anselmo Cardoso de Paiva and Rodrigo Veras

ROI Extraction in Thermographic Breast Images Using Genetic Algorithms

Lucas Mendes, Erick Rodrigues, Sandro Izidoro, Aura Conci and Panos Liatsis

TS2 - Image-Based Detection, Recognition and Classification I

July 2nd, 2020 — 9:00 am to 10:30 am (UTC -3)

Chairs: Creto Vidal and Rodrigo de Melo Souza Veras

Shape Classification Using Randomized Neural Network Descriptors Extracted from the Fourier Spectrum

Jarbas J. M. Sá Junior, André R Backes and Odemir M. Bruno

Virus Classification by using a Fusion of Texture Analysis Methods

André R Backes and Jarbas J. M. Sá Junior

Banknote Identification Methodology for Visually Impaired People

Leonardo Pereira de Sousa, Rodrigo de Melo Souza Veras, Luis Henrique Silva Vogado, Laurindo de Sousa Britto Neto, Romuere Rodrigues Veloso e Silva, Flávio Henrique Duarte de Araújo and Fátima Nelsizeuma Sombra de Medeiros

A Survey on Performance Metrics for Object-Detection Algorithms

Rafael Padilla, Sergio Lima Netto and Eduardo Antonio Barros da Silva

Addressing Class Imbalance in Image-Based Plant Disease Detection: Deep Generative vs. Sampling-Based Approaches

Nasik Muhammad Nafi and William H. Hsu

TS3 - Biomedical Signal Processing and Analysis II

July 2nd, 2020 — 10:30 am to 12:00 pm (UTC -3)

Chairs: Gregor Rozinaj and Romuere Rodrigues Veloso e Silva

Automatic Prostate Segmentation on 3D MRI Scans Using Convolutional Neural Networks with Residual Connections and Superpixels

Giovanni Lucca França da Silva, João Vitor Ferreira França, Petterson Sousa Diniz, Aristófanés Corrêa Silva, Anselmo Cardoso de Paiva and Elton Anderson Araújo de Cavalcanti

Hybrid Capsule Network Architecture Estimation for Melanoma Detection

Jose Boaro, Pedro Santos, Carlos Rocha, Thamila Fontenele, Geraldo Braz Junior, João de Almeida, Simara Rocha and Anselmo de Paiva

Analysis of Features for Breast Cancer Recognition in Different Magnifications of Histopathological Images

Rafael Henrique de Oliveira Carvalho, Alessandro Santana Martins, Leandro Alves Neves and Marcelo Zanchetta Do Nascimento

Graphical Oracles to Assess Computer-Aided Diagnosis Systems: A Case Study in Mammogram Masses and Calcifications Detection

Vagner Mendonça Gonçalves, Márcio E. Delamaro and Fátima L. S. Nunes

TS4 - Image-Based Detection, Recognition and Classification II

July 2nd, 2020 — 10:30 am to 12:00 pm (UTC -3)

Chairs: Esteban Walter Gonzalez Clua and Roger Resmini

Automatic Sinusoidal Curves Detection in Borehole Images Using the Iterated Local Search Algorithm

Maira Moran, Jordan Cuno, Jose Merino, Eduardo Vasconcellos, Mauro Biondi, Esteban Clua, Maury Correia and Aura Conci

Dense Crowd Counting with Capsule Networks

Victor Hugo Roldão Reis, Silvio Jamil F. Guimarães and Zenilton Kleber Gonçalves Do Patrocínio Jr.

Analysis of Non-Conformity in Flexible Pipe through Data Mining from Image Bank

Carlos Adriano Arruda Teixeira, Simone Vasconcelos Silva and Antônio José da Silva Neto

Optimizing CNN's using Cumulative Learning with Auxiliary Networks for Traffic Light Recognition

Joaquim Martins Scavone, Jonnison Lima Ferreira, Emerson Rogerio Alves Barea, Geraldo Braz Junior and Areolino de Almedia Neto

The Comparison of Color Texture Features Extraction based on 1D GLCM with Deep Learning Methods

Miroslav Benco, Patrik Kamencay, Martina Radilova, Robert Hudec and Martin Sinko

TS5 - Signal Processing

July 2nd, 2020 — 1:00 pm to 2:30 pm (UTC -3)

Chairs: Dušan Gleich and Sergio Lima Netto

Design of a Full Polarimetric GPR System for Landmine Detection

Danijel Sipos and Dusan Gleich

Energy Reconstruction Performance in the ATLAS Tile Calorimeter Operating at High Event Rate Conditions Using LHC Collision Data

Juan Lieber Marin

Novelty Detection in Power Quality Signals with Surrogates: a Time-Frequency Technique

Eder Kapisch, Luciano Andrade, Leandro Silva and Carlos Duque

Identification and Classification of Corrupted Signals for the Neutrinos Angra Experiment

Mariana Lima Migliorini, Augusto Santiago Cerqueira, Igor Abritta Costa, Antônio Fernandes Júnior, Guilherme Sebastião Lopes, Amaro Silva Lopes Júnior, Rafael Antunes Nóbrega, Igor Pains, David Souza, Herman Pessoa Lima Júnior, João Anjos, Pietro Chimenti, Luis Fernando Gomez Gonzales, Ernesto Kemp, Iury Pepe, Dion Ribeiro and Germano Guedes

Amplitude Estimators Applied to Saturated Signals for the v-Angra Experiment

Antônio Fernandes Júnior, David Souza, Igor Abritta Costa, Amaro Silva Lopes Júnior, Mariana Lima Migliorini, Igor Pains, Guilherme Sebastião Lopes, Rafael Antunes Nóbrega, João Anjos, Herman Pessoa Lima Júnior, Iury Pepe, Dion Ribeiro, Pietro Chimenti, Germano Guedes, Luis Fernando Gomez Gonzales and Ernesto Kemp

TS6 - Image Processing I

July 2nd, 2020 — 1:00 pm to 2:30 pm (UTC -3)

Chairs: Fátima Nunes and José Viterbo Filho

Image Enhancement Applied to Water Holding Capacity Images

Renan G. de Andrade, Mariah C. Durval, Isaura M. Ferreira, Robson C. Antunes and André R Backes

Watermark Detection and Clearance in Video Using Simple Signal and Image Processing Techniques

José Ramón González Montero, Alberto Reyes Díaz, Egberto Caballero Rosillo and Aura Conci

Parameterizing Variational Methods through Data-Driven Inverse Problems for Image Processing Applications

Italo Messias Felix Santos, Gilson Antônio Giraldi, Pablo Javier Blanco and Abimael Dourado Loula

Improvement of Ultrasonic Image by a Combination of Correlation-Based Image Processing and Virtual Sources Applied to Non-Destructive Evaluation

Rayanne Souza, Miguel Freitas, Alan Kubrusly and Jean Pierre von der Weid

An Empirical Evaluation of Sharpening Filters Applied to Magnified Images

Leonardo Ramos Emmendorfer

TS7 - Machine Learning & Prediction

July 2nd, 2020 — 2:30 pm to 4:00 pm (UTC -3)

Chairs: Diego Nunes Brandão and Gilson Giraldi

Contextual Features and Sequence Labeling Techniques for Relevance Prediction in Retrieval

Alberto Oliveira and Anderson Rocha

An Exploratory Study Using Stream Learning Algorithms to Predict Duration Time of Vehicle Routes

Angelica Pinto, Flavia Bernardini, Leandro Miranda, José Viterbo and Edwin Mitacc

Ensemble of Bidirectional Recurrent Networks and Random Forests for Protein Secondary Structure Prediction

Gabriel Bianchin de Oliveira, Helio Pedrini and Zanoni Dias

Recent Advances in Overcoming the Independence Assumption in Adaptive Filtering Analyses

Thiago T. P. Silva, Pedro Lara, Thiago Gonzaga, Diego Brandao, Luis Tarrataca and Diego Barreto Haddad

Wind Turbine Fault Detection: A Semi-Supervised Learning Approach With Automatic Evolutionary Feature Selection

Fernando P. G. de Sa, Diego Brandão, Rafaelli C. Coutinho, Eduardo Ogasawara and Rodrigo F. Toso

TS8 - Image Processing II

July 2nd, 2020 — 2:30 pm to 3:30 pm (UTC -3)

Chairs: Angel Domingo Sappa and Leonardo Ramos Emmendorfer

Determining the Direction of Images Using Sum and Difference Histograms and Texture Descriptors

Adriel Santos Araujo, Roger Resmini and Aura Conci

SpaceYNet: A Novel Approach to Pose and Depth-Scene Regression Simultaneously

Dunfrey Aragao, Tiago Nascimento and Adriano Mondini

UAV-Multispectral Sensed Data Band Co-Registration Framework

Jocival Dantas Dias Jr., André R Backes, Mauricio Escarpinati, Leandro Henrique Furtado Pinto Silva, Breno Corrêa Silva Costa and Marcelo Henrique Freitas Avelar

TS9 - Biomedical Signal Processing and Analysis III

July 3rd, 2020 — 9:00 am to 10:30 am (UTC -3)

Chairs: Daniela Gorski Trevisan and Vagner Mendonça Gonçalves

Evaluating the Impact of Polygonal Representations on Mass Classification

Rodrigo Sampei Hirama, Ricardo Pedro, Vinícius Graciliano, Ariane Machado-Lima and Fátima Nunes

Convolution Neural Network Models for Acute Leukemia Diagnosis

Maíla Claro, Luis Vogado, Rodrigo Veras, André Santana, João Tavares, Justino Santos and Vinicius Machado

A Skin Lesion Semi-Supervised Segmentation Method

Elineide Santos, Rodrigo Veras, Helano Miguel, Kelson Aires, Maila Lima Claro and Geraldo Braz Junior

DuaLAnet: Dual Lesion Attention Network for Thoracic Disease Classification in Chest X-Rays

Vinicius Teixeira, Leodecio Braz, Helio Pedrini and Zanoni Dias

Taxonomic Indexes for Automatic Prostate Segmentation on 3D MRI Scans Using Superpixels and Probabilistic Atlas

João Vitor F. França, Giovanni Silva, Pedro Santos, Geraldo Junior, Aristófanés Silva and Elton Cavalcanti

TS10 - Face Recognition and Biometry

July 3rd, 2020 — 9:00 am to 10:30 am (UTC -3)

Chairs: Anselmo Antunes Montenegro and Evandro Ottoni Teatini

Automatic Attendance Management System based on Deep One-Shot Learning

Angelo Menezes, João M. D. da C. Sá, Eduardo Llapa and Carlos A. Estombelo-Montesco

Open-set Face Recognition for Small Galleries Using Siamese Networks

Gabriel Salomon, Alceu Britto Jr., Rafael Vareto, William Schwartz and David Menotti

Data Augmentation for Face Recognition with CNN Transfer Learning

Valeska Uchoa, Kelson Aires, Rodrigo Veras, Anselmo Paiva and Laurindo Britto

Ocular Recognition Using Deep Features for Identity Authentication

Marcelo Vizoni and Aparecido Marana

Improving Active Shape Models Robustness Towards Locating Facial Landmarks In Profile Contour

Ricardo Freitas, Kelson Aires, Rodrigo Veras, Anselmo Paiva and Laurindo Neto

TS11 - Biomedical Signal Processing and Analysis IV

July 3rd, 2020 — 10:30 am to 12:00 pm (UTC -3)

Chairs: Marcelo Zanchetta do Nascimento and Radoslav Vargic

Transfer Learning Method Evaluation for Automatic Pediatric Chest X-Ray Image Segmentation

Gabriel Bras, Vandecia Fernandes, Anselmo Cardoso de Paiva, Geraldo Braz Júnior and Luis Rivero

Comparing the Degeneration of the Corpus Callosum by Magnetic Resonance Images

Anna De Falco and Aura Conci

A Non Linear Registration Without the Use of the Brightness Constancy Hypothesis

Anna De Falco, Stephenson de Sousa Lima Galvão and Aura Conci

Mask Overlaying: A Deep Learning Approach for Individual Optic Cup Segmentation from Fundus Image

Arthur Lima, Alana Araújo, Alan Lima, Jefferson de Sousa, João de Almeida, Anselmo de Paiva and Geraldo Braz Júnior

TS12 - Speech and Audio Processing

July 3rd, 2020 — 1:00 pm to 2:30 pm (UTC -3)

Chairs: Nadia Nedjah and Ryszard Stasiński

Self-Reading by Speech: An End-to-end Speech Recognition Method Applied to the Energy Consumption Measurement on Mobile Devices

Carlos Rocha, José Oliveira, Robherson Costa, Anderson Paiva, Jefferson Sousa, Arthur Serra, Arthur Fernandes, Ricardo Marques, Wesley Figueredo, Italo F. S. Silva, Simara Rocha, Geraldo Braz Junior, João Almeida, Anselmo Paiva, Aristófanis Silva, Eliana Monteiro, Márcia Silva and Italo Fernandes Silva

Cubic Law and MAP Compensation Techniques for Robust Text-Independent Speaker Identification

Harry Anacleto Silva and David Chavez Muñoz

Improving Musical Tag Annotation with Stacking and Convolutional Neural Networks

Juliano Donini Da Silva, Yandre Maldonado Gomes da Costa and Marcos Aurélio Domingues

Music4All: A New Music Database and its Applications

Igor André Pegoraro Santana, Fabio Pinhelli, Juliano Donini, Leonardo Catharin, Rafael Biazus Mangolin, Yandre Maldonado E Gomes da Costa, Valéria Delisandra Feltrim and Marcos Aurélio Domingues

Combined Sustained Vowels Improve the Performance of the Haar Wavelet for Pathological Voice Characterization

Brígida Oliveira, Deborah Magalhães, Daniel Ferreira and Fátima Medeiros

TS13 - Networks and Wireless Communications

July 3rd, 2020 — 2:30 pm to 3:30 pm (UTC -3)

Chairs: Débora Christina Muchaluat-Saade and Raul Feitosa

LATOR: Link-Quality Aware and Thermal Aware On-Demand Routing Protocol for WBAN

Egberto Caballero Rosillo, Vinicius Ferreira, Robson Lima, Célio Neves de Albuquerque and Débora Muchaluat-Saade

Smart Detection-IoT: A DDoS Sensor System for Internet of Things

Frederico Augusto Fernandes Silveira, Francisco Lima-Filho, Felipe Sampaio Dantas Silva, Agostinho De Medeiros Brito Júnior and Luiz Felipe Silveira

A Lightweight Reinforcement-Learning-based Mechanism for Bandwidth Provisioning on Multitenant Data Center

Reiner Filho, Tadeu Ferreira, Diogo Mattos and Dianne Medeiros

TS14 - Human Computer Interaction and Education

July 3rd, 2020 — 2:30 pm to 3:30 pm (UTC -3)

Chairs: Erick Delvizio and Marek Domanski

Machine Learning in Information Visualization: Using Rule-based Learning Algorithms to Personalize Interfaces

Leonardo S. Silva, Ricardo Nakamura and Fátima L. S. Nunes

CORELA Collaborative Learning Environment for Electrical Engineering Education

Dušan Gleich, Andrej Sarjaš, Marko Malajner, Poliksena Miteva, Jelena Josifovska, Natasha Bozinovska, Zivko Kokolanski, Bodan Velkovski, Srećko Simović, Matic Podobnik, Matjaž Šegula, Zlatko Ruščić, Marijan Pavosević

EvolveDTree: Analyzing Student Dropout in Universities

Gustavo Alexandre S. Santos, Kele T. Belloze, Luis Tarrataca, Diego B. Haddad, Alex L. Bordignon and Diego Brandao

Special Sessions

SC1 - Signal and Image Processing for Smart Cities I

July 3rd, 2020 — 10:30 am to 12:00 pm (UTC -3)

Chairs: Angel Sanchez, Jean-Bernard Hayet and Flávia C. Bernardini

Off-the-Shelf Based System for Urban Environment Video Analytics

Henry Velesaca, Steven Araujo, Patricia Suarez, Ángel Sanchez and Angel Sappa

The Augmented Space of a Smart City

Felipe Fernandez, Angel Sanchez, Jose Velez and Belen Moreno

BEM: A Framework based on Business Intelligence, Quality of Experience, and Car Park Management

Adriel Santos Araujo, Bruno Camara, Flavio Docek, Lucas Gaspar and Yona Lopes

Evaluation of Output Representations in Neural Network-based Trajectory Predictions Systems

Andrea Ek-Hobak, Angel Sanchez and Jean-Bernard Hayet

A Methodology for Taxi Demand Prediction Using Stream Learning

David Faial, Flavia Bernardini, Edwin Mitacc Meza, Leandro Miranda and José Viterbo

SC2 - Signal and Image Processing for Smart Cities II

July 3rd, 2020 — 1:00 pm to 2:30 pm (UTC -3)

Chairs: Angel Sanchez, Jean-Bernard Hayet and Flávia C. Bernardini

Energy Consumption Prediction using Data Stream Learning for Commercial Buildings

Luis Felipe de Oliveira Fernandes, Flavia Bernardini, Edwin Mitacc Meza, Leandro Miranda and José Viterbo

Modelling and Certifying Smart Cities in Reo Circuits

Erick Grilo and Bruno Lopes

An Experimental Analysis for Detecting Wi-Fi Network Associations Using Multi-label Learning

Guilherme Apostolo, Flavia Bernardini, Luiz Cláudio Magalhães and Débora Muchaluat-Saade

Demand-Side Management Framework for Smart Cities

Fabio Mentzingen, Wilian Martins, Raphael Alves, Yona Lopes