http://iberamia2018.iberamia.org

Iberamia'2018
Trujillo, Perú
13-16, November'2018

Programme Schedule

13 Nov (Tuesday)	14 Nov (Wednesday)		15 Nov (Thursday)			16 Nov (Friday)	
8:00 – 9:00 Registration and Reception	8:00 – 9:00 Registration and Reception		8:30 – 9:00 Registration and Reception			8:30 – 9:00 Registration and Reception	
9:00 -10:30 . Workshops, Tutoriales V Jornada Peruana de Inteligencia Artificial	9:00 -10:15 **Technical Session W-1A** Machine Learning, Cognitive Modeling -I	9:00 -10:15 **Technical Session W-1B** Knowledge Representation and Reasoning -I	9:00-10:15 **Technical Session T-1A** Natural Language Processing -I	9:00 -10:15 **Technical Session T-1B** Planning, Scheduling & Robotics -I		9:00 -10:15 **Technical Session F-1A** Natural Language Processing -II	9:00 -10:15 **Technical Session F-1B** Natural Language Processing -III
10:30 – 11:00 Coffee Break	10:15 – 10:45 Coffee Break		10:15 – 10:45 Coffee Break			10:15 – 10:45 Coffee Break	
11:00 -12:00 . Workshops, Tutoriales V Jornada Peruana de Inteligencia Artificial	10:45 -12:00 **Technical Session W-2A** AI Applications, Knowledge Engeneering	10:45 -12:00 **Technical Session W-2B** Knowledge Representation and Reasoning -II	10:45 -12:00 **Technical Session T-2A** Multi-Agent Systems -I	10:45 -12:00 **Technical Session T-2B** Machine Learning, Cognitive Modeling -II		10:45 -12:00 **Technical Session F-2A** Planning, Scheduling & Robotics -II	10:45 -12:00 **Technical Session F-2B** Natural Language Processing -IV
12:00 – 13:00 **Plenary Talk** Aspectos Estadísticos y Computacionales del Big Data ***Dr. Edgar Acuña***	12:15 – 13:30 **Plenary Talk** Data-driven Analytics for Natural Resources ***Bianca Zadrozny, Ph.D.***		12:15 – 13:30 **Plenary Talk** Ethics and Artificial Intelligence ***Prof. Juan Pavón***			12:00 – 13:00 **Closing Ceremony**	
13:00 – 15:00 **Lunch**	13:30 – 15:30 **Lunch**		13:30 – 15:30 **Lunch**				
15:00 – 17:30 . Workshops, Tutoriales V Jornada Peruana de Inteligencia Artificial	15:30 – 17:00 **Touristic Tour**		15:30–17:00 **Technical Session T-3A** Multi-Agent Systems -II	15:30–17:00 **Technical Session T-3B** Machine Learning, Cognitive Modeling -III	15:30–17:00 ***IBERAMIA Meeting***		
19:00 – 20:00 **Open Ceremony**	19:00 – 21:00 **Social & Cultural Reception**		20:00 **Conference Dinner**				

Machine Learning, Cognitive Modeling -I
9:00 -10:15 W1A

Investigation of Surface EMG and Acceleration Signals of Limbs' Tremor in Parkinson's Disease Patients Using the Method of Electrical Activity Analysis Based on Wave Trains
Olga Sushkova, Alexei Morozov, Alexandra Gabova and Alexei Karabanov

Using Fuzzy Neural Networks to prediction of improvement in expert systems for treatment of immunotherapy
Augusto Junio Guimarães, Vinicius Jonathan Silva Araujo, Paulo Vitor Campos Souza, Vanessa Araújo and Thiago Silva Rezende

Analysis of Encoder Representations as Features using Sparse Autoencoders in Gradient Boosting and Ensemble Tree Models
Luis Aguilar Ibañez and Luis Aguilar Gutiérrez

Knowledge Representation and Reasoning -I
9:00 -10:15 W1B

Completeness by Modal Definitions
Levan Uridia and Dirk Walther

Semantic Representation for Collaboration Trajectories in Communities of Practice
Matheus Pereira, Rosa Vicari and João Da Silva

A distributed probabilistic model for fault diagnosis.
Ana Li Oña García, Enrique Sucar and Eduardo F. Morales

AI Applications, Knowledge Engeneering
10:45 -12:00 W2A

Design Of A Computational Model For Organizational Learning In Research And Development Centers (R&D)
Carlos Enrique Montenegro-Marin, Marco Javier Suárez Barón, Abdelraouf M. Ishtaiwi, José Fdo López and Paulo Gaona-Garcia

Storm Runoff Prediction Using Rainfall Radar Map Supported By Global Optimization Methodology
Yoshitomo Yonese, Akira Kawamura and Hideo Amaguchi

ESIA Expert System for Systems Audit Risk-Based
Néstor Darío Duque-Méndez, Valentina Tabares and Hector Gonzalez Gutierrrez

Knowledge Representation and Reasoning -II
10:45 -12:00 W2B

An AI Approach to Temporal Indeterminacy in Relational Databases
Luca Anselma, Luca Piovesan and Paolo Terenziani

Querying probabilistic temporal constraints for guideline interaction analysis: GLARE’s approach
Antonella Andolina, Luca Anselma, Luca Piovesan and Paolo Terenziani

Development of Agent Logic Programming Means for Heterogeneous Multichannel Intelligent Visual Surveillance
Alexei Morozov and Olga Sushkova

Natural Language Processing -I
9:00 -10:15 T1A

A Rule-Based AMR Parser for Portuguese
Rafael Anchiêta and Thiago Pardo

Feature Selection using Sampling with Replacement, Covering Arrays and Rule-Induction Techniques to aid Polarity Detection in Twitter Sentiment Analysis
Jorge Villegas, Carlos Cobos, Martha Eliana Mendoza Becerra and Enrique Herrera-Viedma

On the Automatic Analysis of Rules Governing Online Communities
Adan Beltran, Nardine Osman, Lourdes Aguilar and Carles Sierra

Planning, Scheduling & Robotics -I
9:00 -10:15 T1B

Using Communication for the Evolution of Scalable Role Allocation in Collective Robotics
Gustavo Martins, Paulo Urbano and Anders Christensen

Multi-agent Path Finding on Real Robots: First Experience with Ozobots
Roman Barták, Jiří Švancara, Věra Škopková and David Nohejl

When a Robot Reaches Out for Human Help
Ignasi Andrés, Leliane Nunes de Barros, Denis Mauà and Thiago D. Simão

Multi-Agent Systems -I
10:45 -12:00 T2A

MAS Modeling of Collaborative Creative Processes
Luis de Garrido and Juan Pavón

State Machines Synchronization for Collaborative Behaviors Applied to Centralized Robot Soccer Teams
Jose Guillermo Guarnizo and Martin Mellado

Machine Learning, Cognitive Modeling -II
10:45 -12:00 T2B

Stakeholders Classification System based on Clustering Techniques
Yasiel Pérez-Vera and Anié Bermudez-Peña

Differential Diagnosis of Dengue and Chikungunya in Colombian Children using Machine Learning
William Caicedo, Hernando Pinzón, Ángel Paternina and Jairo Gutiérrez

Evaluating Deep Neural Networks for Automatic Fake News Detection in Political Domain
Francis C. Fernández-Reyes and Suraj Shinde

Multi-Agent Systems -II
15:30–17:00 T3A

Multi-Agent Systems that Learn to Monitor Students' Activity
Rubén Fuentes-Fernández and Frederic Migeon

Adaptive and Intelligent Mentoring to Increase User Attentiveness in Learning Activities
Ramón Toala Dueñas, Filipe Gonçalves, Dalila Durães and Paulo Novais

Encouraging the recycling process of urban waste by means of game theory techniques using a multi-agent architecture.
Alfonso González-Briones, Pablo Chamoso, Angélica González Arrieta and Juan M. Corchado

Potential Fields in Smoke Dispersion Applied to Evacuation Simulations
Bruna Corrêa, Diana Francisca Adamatti and Alessandro de L. Bicho

Machine Learning, Cognitive Modeling -III
15:30–17:00 T3B

Supervised and unsupervised identification of concept drifts in data streams of seismic-volcanic signals
Paola Alexandra Castro-Cabrera, Mauricio Orozco-Alzate, Cesar Germán Castellanos-Domínguez, Fernando Huenupán and Luis Enrique Franco Marín

A comparative study between deep learning and traditional machine learning techniques for facial biometric recognition
Jonnathann Finizola, Jonas Targino, Felipe Teodoro and Clodoaldo Lima

Neural network pruning using discriminative information for emotion recognition
Máximo Sánchez-Gutiérrez and Enrique Albornoz

Furnariidae species classification using extreme learning machines and spectral information
Enrique Albornoz, Leandro Vignolo, Juan Sarquis and César Martínez

Natural Language Processing -II
9:00 -10:15 F1A

Free Tools and Resources for HMM-based Brazilian Portuguese Speech Synthesis
Ericson Costa and Nelson Sampaio Neto

Exploring the Relevance of Bilingual Morph-units in Automatic Induction of Translation Templates
Kavitha Karimbi Mahesh

Machine learning approach for automatic short answer grading: a systematic review
Lucas Galhardi and Jacques Brancher

Natural Language Processing -III
10:45 -12:00 F1B

Calculating the Upper Bounds for Automatic Text Summarization in Portuguese using Genetic Algorithms
Jonathan Rojas Simón, Yulia Ledeneva and René Arnulfo García-Hernández

Automatic Detection of Regional Words for Pan-Hispanic Spanish on Twitter
Sergio Jimenez Vargas, George Dueñas, Alexander Gelbukh, Carlos A. Rodriguez-Diaz and Sergio Mancera

LAR-WordNet: A Machine-translated Pan-Hispanic and Regional WordNet for Spanish
Sergio Jimenez Vargas and George Dueñas

Planning, Scheduling & Robotics -II
9:00 -10:15 F2A

A Fully Fuzzy Linear Programming Model for Berth Allocation and Quay Crane Assignment
Flabio Gutierrez, Edwar Lujan, Rafael Asmat and Edmundo Vergara

Design of a bio-inspired controller to operate a modular robot autonomously
Henry Hernandez, Rodrigo Moreno and Jonatan Gomez

Natural Language Processing IV
10:45 -12:00 F2B

Deep Neural Network Approaches for Spanish Sentiment Analysis of Short Texts
José Eduardo Ochoa Luna and Disraeli Ari

Feature set optimisation for infant cry recognition
Leandro Vignolo, Enrique Marcelo Albornoz and César Ernesto Martínez

IBERAMIA'2018
13-16, Noviembre'2018. Trujillo, Perú

Plenary Talks

Auditorio Posgrado of the *Universidad Nacional de Trujillo* , located at *Av. Juan Pablo II*, Trujillo (Perú).

"Ethics and Artificial Intelligence" **Iberamia 2018 *Career Recognition Award* talk**

(12:15, Thursday, 15th Nov)

Prof. Juan Pavón
Grupo de investigación en Aplicaciones Sociales e Interdisciplinares basadas en Agentes (GRASIA)
Complutense University of Madrid

Short Bio: Juan Pavón holds a PhD degree in Computer Science from Universidad Politécnica Madrid (1988). From 1987 to 1997 he was working in R&D departments of Alcatel in Spain, France and Belgium, and in Bellcore (USA), especially in the development of component-based architectures for distributed systems, and their application to multimedia services on broadband networks and mobile systems. Currently he is Full Professor at Universidad Complutense Madrid, where he leads the GRASIA research group. His main areas of interest focus on the application of multi-agent systems technology in distributed control, service personalization, knowledge management, ambient assisted living, Systems of Systems engineering, complex systems simulation, and tools to support Responsable Research and Innovation (RRI).

Current development of Artificial Intelligence shows systems with greater degree of autonomy and decision making capabilities. Also, their integration in all dimensions of our daily living raises ethical issues on their application and behavior. This talk will review how ethics has been considered in the design of intelligent systems, and will address questions such as: Can we control that these systems follow an ethical behavior? Can we program ethical values in intelligent systems? What would be the ethics of robots?

Data-driven Analytics for Natural Resources

(12:15, Wednesday, 14th Nov)

Bianca Zadrozny, Ph.D.
Sr. Research Scientist
Manager, Natural Resources Analytics. IBM Research – Brazil

Short Bio: Bianca Zadrozny is a research manager at IBM Research Brazil, leading the Natural Resources Analytics group. The group's mission is to conduct research projects in data-driven analytics for decision making in the areas of oil&gas and mining, with a great focus in developing new machine learning workflows to aid geoscientists in the discovery of natural resources. Bianca got her PhD in Computer Science from University of California, San Diego in 2003. After that, she has worked as a researcher at IBM T.J. Watson Research Center, New York and as a professor at Federal Fluminense University, Brasil. In 2011, she joined IBM Research Brazil. Bianca is an active researcher in the machine learning and data mining communities, having published more than 30 papers. She has served in the editorial board of the Journal of Machine Learning Research (JMLR) and the Data Mining and Knowledge Discovery (DMKD) journal and also in the program committees of conferences such as ICML, KDD, ECML, SDM e SBBD.

In this talk, I will give an overview of some of the most recent projects developed in the Natural Resources Analytics group at IBM Research Brazil. The group's mission is to conduct research projects in data-driven analytics for decision making in the areas of oil&gas and mining, with a focus in developing new machine learning workflows to aid geoscientists in the discovery of natural resources. The topics I will cover in more detail include: seismic image segmentation using convolutional neural networks, prediction of well production from well logs and gold mineralization prediction using drill hole data.

Aspectos Estadísticos y Computacionales del análisis de Big Data

(12:00, Thursday, 13th Nov)

Dr. Edgar Acuña Fernández
Dpto. de Ciencias Matemáticas y Programa Doctoral en Ciencias e Ingeniería de la Información y de la Computación. Universidad de Puerto Rico en Mayaguez

Short Bio: El Dr. Edgar Acuña es catedrático Principal del Departamento de Coencias Matemáticas de la Universidad de Puerto Rico en Mayaguez. Su área de investigación es en Aprendizaje Estadístico y Computacional para el Descubrimiento de Conocimiento en bases de datos. En particular, él está interesado en pre-procesamiento de datos y en ingeniería de datos. Actualmente, él está trabajando en minería de datos masivos (Big Data) y en aplicaciones de análisis de datos funcionales a datos provenientes de distintas áreas científicas y comerciales. El ha supervisado a 25 estudiantes de maestría en Estadística y Computación Científica y a 5 estudiantes doctorales en Ciencias e Ingeniería de la Información y Computación. En el 2009, Dr. Acuña fue seleccionado como Fulbright Scholar para visitar universidades peruanas. El ha ofrecido conferencia en 23 países alrededor del mundo. El Dr. Acuña ha sido el investigador principal de 4 proyectos patrocinados por la Oficina de Investigación Naval, la Fundación Nacional de las Ciencias y del Departamento de Defensa de los Estados Unidos. El Dr. Acuña ha asistido por invitación a institutos de veranos ofrecidos por el Centro de Supercomputadoras de San Diego(2015) y a Google(2017). Durante su carrera, el Dr. Acuña ha recibido fondos de Intel y Hewlett Packard para adquirir equipo de computación y para financiar a sus estudiantes graduados.

Los mecanismos para la recolección automática de datos (por ejemplo, sensores) y el desarrollo de tecnología ha hecho posible que una gran volumen de datos (Big Data) pueda estar disponibles en bases de datos, almacenes de datos y otros repositorios de información. Hoy en día, compañías tales como Google, Twitter, Facebook, Amazon, Netflix, Linkedin, etc tienen la necesidad de convertir estos datos en conocimiento e información. En esta charla, revisaremos algunas herramientas estadísticas y computacionales para extraer conocimiento en conjuntos de datos masivos, esta es una de las principales tareas en el mundo de los grandes conjuntos de datos (Big data) Primero, daremos una breve introducción a minería de datos y Big Data. Luego, explicaremos, el uso de Hadoop y Mapreduce, dos poderosas herramientas computacionales basadas en tecnología de Google para manipular Big Data . Asimismo, hablaremos de Spark (AMPlab-UC-Berkeley) y del uso de Python y R para hacer análisis de Datos Grandes. Finalmente, hablaremos uso acerca de varios servicios de Computación en la Nube (Cloud Computing) para Big Data, tales como Google Cloud Platform, Amazon Web Services y Microsoft Azure