IBERAMIA 2024. 18th Ibero-American Conference on Artificial Intelligence.

Iberamia'2024

Universidad de la República

Montevideo, Uruguay

November 13-15th, 2024

Technical Sessions Programme

Sites: Facultad de Ingeniería de la Universidad de la República. Montevideo, Uruguay.
- Room 1: Room 726 (Central Building, 7 Floor)
- Room2: Room 701 (Central Building, 7 Floor)
- Room 3: Room 705 (Central Building, 7 Floor)
- Openning Ceremony & Plenary Talks: Salón de Actos «Ing. y Agr. Enrique de Martini» (Central Building, 1 Floor)

Wednesday 13, November, 2024

9:00. Registration

10:00-11:00. Openning Ceremony, Room: Salón de Actos «Ing. y Agr. Enrique de Martini» (Cuerpo Central, piso 1)

11:00-12:00. Plenary Talk 1 Salón de Actos «Ing. y Agr. Enrique de Martini» (Cuerpo Central, piso 1), Chair: A. Rosá
- Assessing social bias in AI: Who decides how language models discriminate?. *Pr. Luciana Benotti. National Research Council CONICET. Argentina.*

12:00-12:30. Opening Cocktail

12:30-14:30 Lunch

14:30-16:00. Session 1 *AI Engineering & Applications (EA)* **Room 1, Chair: C. Bicharra**
- Adjusting convolution blocks of U-Net to improve sugarcane crop line segmentation . Backes, Ribeiro
- Mapping Motion: A Cognitive Approach to Dyspraxia Multimodal Analysis. Muvdi, Hernandez, Cifuentes, Di Somma, Chiappone, Di Maro, Martínez-Santos, Puertas
- AI-assisted bronchoscopy in the intensive care unit: Corpus development and an application to anatomic position identification.Tarsia, Mastropasqua, Carboni Bisso, Las Heras,Burgos, Risk, Courtois, Fernandez Ceballos, Lockhart, Acevedo, Cotik

14:30-16:00 Session 2 *Machine Learning (ML)* **Room 2, Chair: E. Sucar**

- Semi-Supervised Hierarchical Bayesian Multi-label Classification. Serrano-Pérez, Sucar
- Advancing Photovoltaic Forecasting with Neural Networks: Integrating N-Beats and Sequential Models with Fourier Analysis . Surribas-Sayago, Fernández-Rodríguez, Dominguez
- Efficiency of the Transformer model in time series forecasting: A case study in Wastewater Treatment Plants Medeiros, S. Marcondes, Oliveira, Machado, Novais

16:00-16:30 Coffee Break

16:30-18:00. Session 3 *Bio-inspired & Soft Computing (BSC); NLP; SAI* **Room 1, Chair: V. Cotik**

- X-COVNet: Externally Validated Model for Computer-Aided Diagnosis of Pneumonia-Like Lung Diseases in Chest X-Rays Martínez Pazos, Orellana García, Batard Lorenzo, Gulín Gonzáles
- Information extraction from Electronic Health Records written in Spanish for epidemic intelligence Petri, Cotik, Barcena Barbeira
- From AI Act to Public-Private-People Partnerships: Building AI as a Global Public Good Laukyte

16:30-18:00. Session 4 *Computer Vision & Robotics (CVR)* **Room 2, Chair: F. Benavides**

- Evaluation of mares uterine health based on endometrial biopsies using image processing and machine learning techniques. Zimmer, Díaz, Aguilera, Estradé, Lecumberry, Musé
- Fairtrees: A Deep Learning Approach for Identifying Deforestation on Satellite Images. Lira, De Wolff, Martí, Sanchez-Pi
- Ensembling convolutional neural networks for human skin segmentation. Kuban, Kawulok

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Thursday 14, November, 2024

9:00. **Registration**

9:00-10:30. Session 5 *AI Engineering & Applications (EA)* **Room 1, Chair: Sanchez-Pi**

- Peak Ground Acceleration Prediction for Earthquake Early Warning with Multivariable Long Short-Term Memory Networks and Temporal Transformers. Fuentes, Yari, Soriano-Vargas, Rocha
- Green Security Along Trails. Betancourt, Velasco
- Identification of dating violence with Machine Learning algorithms: analysis and results. Cruz Mendoza, Canul-Reich, Melendez-Armenta, Malvaez-Hernández

10:30-11:00. *Pitch talks 1 Room 1, Chair: Sanchez-Pi*

- Optimization of Generalized Assignment Problem for a Machinery-Aided Composting Process. Andrade-Ibarra, Trejo-Ramirez, Cuate, Lara López, Uribe
- Configuring an LLM Chatbot as Practice Partner for Language Learning. Gervás, León, Kumar, Bautista
- Using Deep Learning Models in Clinical Histories in Order to Find Precursors of Diseases. Climent Querol, Hernández Ortega, Valveny
- Evaluating State-of-the-Art Extractive Summarization Methods for Brazilian Portuguese. Jorge, Bezerra, Pardo, Castellã Xavier

9:00-10:30. *Session 6 Natural Language Processing (NLP)* **Room 2, Chair: M.ª I. Fariello**

- Te Ahorré Un Click: A Revised Definition of Clickbait and Detection in Spanish News. Mordecki, Moncecchi, Couto
- Entrainment-Metrics: An Open-Source Toolkit for Quantifying Acoustic-Prosodic Entrainment in Spoken Dialogue. Ernest, Gálvez, Gravano

- Derivation Prompting: A Logic-Based Method for Improving Retrieval-Augmented Generation. Sastre, Moncecchi, Rosá

10:30-11:00. *Pitch talks 2 Room 2, Chair: M.ª I.Fariello*

- Adversarial attacks in a shallow neural network to classify android malware. Aldana, Camargo
- Harnessing Deep Learning for Detection of Violence and Vandalism. Ribeiro, Pavón, Machado, Novais, Rodrigues
- Magic Matching: A virtual assistant for financial trading using Machine Learning . Olivera, Perez, Romay, Sabbia, Arena
- Design of a machine learning algorithm for precipitation prediction in Riobamba using neural networks. Urquizo, Ramos, Villacrés, Pozo

11:00-11:30. **Coffee Break**

11:30-12:30. **Plenary** *Talk* **2** Salón de Actos «Ing. y Agr. Enrique de Martini» (Cuerpo Central, piso 1) Chair: F. Garijo

- From Bayesian to Causal Networks: Graphical Models in Artificial Intelligence. *Pr. Luis Enrique Sucar. INAOE. México.*

12:30-14:30 Lunch

14:30-16:00. *Session 7 AI Engineering & Applications (EA)* Room 1, Chair: J. Machado

- Capturing the Essence of Plankton: A Gradient-weighted Class Activation Mapping Analysis. Callejas, Lira, Berry, Martí, Sanchez-Pi
- Agent-Based Model and Machine Learning for the Analysis of Barter Regulated by Lotka-Volterra Equations. Villacrés
- A Geometric Attention Mechanism to Classify Parkinsonism Smooth Pursuit Patterns. Celis, Olmos,Martínez

14:30-16:00. Session 8 *Computer Vision & Robotics (CVR)* Room 2, Chair: F. Barber
- Risk Assessment for Autonomous Landing in Urban Environments using Semantic Segmentation. Loera-Ponce, Mercado-Ravell, Becerra, Valentín-Coronado
- Visual SLAM in underground environments: preliminary results. Bliman, Llofriu, Monzon
- Sound-based parakeets detection system. Benavides, Rován, Monzón

14:30-16:00. **Industry Session Room 2, Chair: G. Moncecchi**

16:00-16:30 **Coffee Break**

16:30-18:00. *Session 9 AI Engineering & Applications (EA)* Room 1, Chair: P. Terenziani

- A Mixed audio-video SPD network for online classification of Parkinsonian speech patterns. Archila, Manzanera, Martínez
- Transformers for Genomic Prediction. Fariello Rico, Castro, Hoffman, Musitelli, Belzarena, Lecumberry
- Improving Assembly Lines with Digital Twins: A Synthetic Case Study. Juarez Juarez, Giret, Botti

16:30-18:00. Session 10 *Machine Learning (ML)* Room 2, Chair: L. Chiruzzo
- Bayesian Regularized Iterative Soft Thresholding Algorithm. Cutrona, Guillot
- Performance Evaluation of Data Analysis Techniques in Dry Bean Seed Classification Using kNN and MLP. Lopes, Bof, Bof, Barone
- Integrating Convolutional Neural Networks and Omics to Promote Precision Medicine in Atopic Dermatitis. Duarte, Belo

Friday 15, November, 2024

9:00.   **Registration**

9:00-10:30. *Session* 11 *Multi-Agent Systems (MAS)* Room 1, Chair:J. Garcia-Ojeda

- Reliability Analysis of Organization-based Multiagent System Designs. Garcia Ojeda
- Emotions Identification in Exchanges of Messages between Agents. Dantas, Farias, Billa, Gonçalves, Adamatti
- Explaining Task Delegation Through Argumentation Debates with Votes. Baqueta, Tacla

10:30-11:00. **Pitch talks 3 Room 1, Chair: J. Garcia-Ojeda**

- Comparative Evaluation of Algorithms for Adaptive Learning Analytics: A Systematic Review of Higher Education Applications. Quijano-Cabezas, Duque, Jimenez Builes
- Audio-Based Violence Detection Using Spectrograms and Deep Learning. Campos, Rodríguez-Domínguez, J. Hornos, Rodrigues
- Capturing Collective Memories of the Disappeared with Artificial Intelligence. Laurenzo

9:00-10:30. Session 12 *Knowledge Representation & Reasoning (KRR)* Room 2, Chair: A. Giret

- AI-based medical education: coping with clinical decisions in GLARE-Edu. Bottrighi, Maconi, Nera, Piovesan, Raina, Terenziani
- Generating Contrastive Explanations from Gradual Semantics Ranking. Morveli-Espinoza, Nieves
- Automatic Classification of Secondary and High School Students Dropout Risk via Knowledge Graphs and Machine Learning. Zapata-Medina, Espinosa-Bedoya, Jimenez Builes

10:30-11:00. **Pitch talks 4 Room 2, Chair: A. Giret**
- Personalizing Learning with Intelligent Tutoring Systems: Leveraging GenAI and Predictive AI for Adaptive Education. Zuluaga-Morillo, Tous-de la Ossa, Giraldo-Cadavid, González-McMahon, Moreno-López, Duque, Restrepo Carmona, Jimenez Builes
- Improving Efficiency of QBF Planning with Mixed Linear – Compact Tree Encodings. Maris
- Assessing AI's Persuasive Power: Can an AI Agent Influence Belief in News?. Nguema Ngomo, Bicharra Garcia

11:00-11:30. **Coffee Break**

11:30-12:30. **Plenary Talk 3** Salón de Actos «Ing. y Agr. Enrique de Martini» (Cuerpo Central, piso 1), Chair: P. Novais

- A look into the video generation frontier: continuous and discrete approaches. *Dr. José Lezama. Senior Research Scientist. Google Deepmind.*

12:30   **Closing Ceremony**