

Symposium of
Applied Science for
Young Researchers



Welcome and Registration – 10:00	
Opening Ceremony	
10:20 – 10:40	
Session Improving Industrial Environments	
10:40 – 11:20 Chair: Carlos Balsa, IPB	
Tailored Training Solutions for Industrial Professionals: A Personalized Learning Platform	Helena Correia, Duarte Duque and João Vilaça
Predictive Operator Assessment in Industry 5.0	Marco Martinelli, Sérgio Ivan Lopes and Mauro Migliardi
Assessing Performance and Quality-of-Service in Industrial Networks in the Industry 5.0 Era	Daniel Barros, Sérgio Ivan Lopes and António Cruz
A survey on the applicability of Artificial Intelligence, Virtual and Augmented Reality in Training in the Industrial Environment	Pedro Saldanha, Duarte Duque and João Vilaça
Session Artificial Intelligence Applications	
11:20 – 12:00 Chair: Rui Pedro Lopes, IPB	
Optimization of RNA Classification Using the Resonant Recognition Model	Felipe Bueno de Souza, Matheus Henrique Pimenta-Zanon, Dora Henriques, Alice Pinto, Carlos Balsa, José Rufino and Fabrício Martins Lopes
Smart Small Ruminant Device: An IoT-Based System for Real-Time Monitoring and Management of Sheep and Goat Mobility	Mateus Araujo, Paulo Leitão, Marina Castro, José Castro and Miguel Bernuy
Performance Analysis of Annotated Paraconsistent Logic Applied to the Development of Artificial Neural Networks	João Henrique Rabello Lins Sousa, Edson António Batista, José Luís Lima and Marcos Roberto Araújo
Soccer Field Areas Segmentation with YOLO Instance Segmentation	Miguel Santos Marques and José Henrique Brito
Session Innovation in Healthcare	
12:05 – 12:45 Chair: Helena Torres, IPCA	
Image Transformer for FER Under Partial Occlusion	Ana Sofia Rodrigues, Júlio Castro Lopes and Rui Pedro Lopes
Development of a Wearable Device for Monitoring the Activity of Elderly People with Dementia: First Insights	Inês C. Rocha, Marcelo Arantes, António Moreira, João L. Vilaça, Pedro Morais, Demétrio Matos, Vítor Carvalho and Mariana Carvalho
EMG Signals and MMT Scores in Robotic Upper-Limb Rehabilitation	Joaquin Dillen, Antonio Moreira and João Vilaça
Prediction of Hand Movements Using the k-Means Method	Gregory M. Vergilino, José Lima, Uilian J. Dreyer and Ana I. Pereira
Lunch	
12:50 – 14:00	
Session SASYR Posters I	
14:00 – 14:30	
Prototyping and application of an attendance control solution in an academic context, using Beacons	Sily Simas and Pedro Filipe Oliveira
A Model Execution in the Cloud for Mobile Apps	Isaac Van-Deste, Júlio Castro Lopes and Rui Pedro Lopes
Intrinsic Wastes in Digital Era Industries and Their Influence on Technological Innovation	Arthur Henrique Gomes Rossi, Joseane Pontes and Paulo Leitão
Development of a Chatbot to support for IPB institutional website	Miguel Correia, Telmo Sampaio and Pedro Filipe Oliveira
A Understanding Consumer Adoption of Electric Vehicles: A Comprehensive Review	Miguel Gonçalves and Clara Vaz
Intelligent Control and Monitoring of Indoor Microgreens Production System	Lucas Pinow, Deborah Ishikawa da Silva, Paulo Leitão, José Barbosa and Cláudio Leones Bazzi
Autonomous Navigation of Unmanned Aerial Vehicle in Software in the Loop	Gabriel Oliveira Pimentel, José Luís Sousa de Magalhães Lima and Murillo Ferreira dos Santos
Front-End for number reading system	Jenivaldo Kalunga, Joana Fernandes and João Teixeira
Predictive model for preventing occupational accidents in the retail sector	Inês Sena, Florbela P. Fernandes, Clara B. Vaz, José Lima and Ana I. Pereira
Real-Time Classification of Olive Ripeness Using YOLOv9 in Olive Oil Mills	João Mendes, José Lima, Lino Costa and Ana I. Pereira
Application Based on Time Series and Neural Networks to Predict Wind Generation	Letícia Góes Campos, João Paulo Teixeira and Raphael Paulo Braga Poubel
iMath: an Intelligent System to Learn Math	Gabriel Leite, Tania Silva, Beatriz Flámia Azevedo, Maria de Fátima Pacheco, Florbela Fernandes and Ana I. Pereira
Gym Mobile Personal Assistant	Bernardo Francisco, João Oliveira, Isaac Van-Deste, Júlio Castro Lopes and Rui Pedro Lopes
Interactive Game With A Equilibrium Sensor To Monitor Physical Health Parameters	Ivo Dias, João Vilaça and Pedro Morais
Advancements in Uroflowmetry: A Systematic Review	Raul Ferrete Ribeiro, Pedro Morais and João L. Vilaça
Role of Artificial Intelligence Systems in Pandemics: A Case Study of Elderly People.	Inês Escrivães, Leonor Varela Lema, Joana Carvalho Carvalho and Pedro Morais
Unstructured data extraction with Ai-based approach to automatically integrate invoices data in ERP Systems	Luís Vilas Boas and António Moreira
Printable piezoresistive sensors based in PDLG polymer composites for urinary catheter applications	Eduardo Pimentel, Daniel Miranda, Senentxu Lanceros-Mendez, João Vilaça and Carlos Costa
Conditioned Play Audiometry - A mobile implementation	Augusto Araújo, Vânia Pereira, Helena Torres, Pedro Morais and João Vilaça
A Deep Learning Strategy for LAA Device Sizing in 2D TEE	Rafael Fernandes, Luís C. N. Barbosa, João L. Vilaça and Pedro Morais
RFID systems optimization for passive tags reading in multi-product applications	Cláudia Pereira and António Moreira
A personalized digital health assistant for life-long self-care	António Faria, Pedro Morais e João Vilaça

Plenary Session | Medical Diagnosis Using Artificial Intelligence – Application to Retinal Images

Invited Speaker | Jose Sigut

14:30 | Chair: Fernando Monteiro, IPB

Session Industrial Innovation and Sustainability

15:15 – 15:55 | Chair: Fernando Veloso, IPCA

Empowering Santiago Island: Renewable Energy Integration in Cape Verde	Luis Lopes, Cintia Garcia, Ângela Ferreira and Gabriel Roma
Decision Support Systems within Digital Twin: Bibliometric Study	Flávia Pires, Antonio Paulo Moreira and Paulo Leitão
Simulation of Routing Systems for Multiple Autonomous Robots in Industrial Environments	João Guilherme Martins Silva, João Braun, João Fabro and José Lima
RFID Performance Evaluation in Dense Tag Environments	Nuno Simões and António Moreira

Coffee Break

16:00 – 16:30

Session SASYR Posters II

16:00 – 16:30

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Session Cybersecurity Advances

16:30 – 17:10 | Chair: Pedro Pinto, IPVC

Integration of AI and Embedded Systems for Enhanced Intrusion Detection System: A Case Study with NVIDIA Jetson Nano	Rui Fernandes, Nuno Lopes and Joaquim Gonçalves
On the Path to Develop a Recovery Cost-Utility Function for Ransomware Attacks	Luis Pinto, Pedro Pinto and António Pinto
Cybersecurity Maturity Level Assessment Tools in Industry 5.0: An Overview	Kateryna Rosliuk and Sérgio Lopes
A Cybersecurity Framework for IoT-enabled Smart Environments	Paulo Barros and Sérgio Ivan Lopes

Awards and Closing Ceremony

17:15 | Chairs: Florbela Fernandes, Helena Torres, Pedro Pinto

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