

Detailed Table of Contents

Preface	v
Scientific Program Committee.....	vii
Table of Contents	ix
Detailed Table of Contents	xi

Part I Machine Learning and Cognitive Applications,.....1

Safety and Explainability Overview in Machine Learning Autonomous and Industrial Applications [CAIS] 3

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Robustness Analysis of Deep Reinforcement Learning for Online Portfolio Selection [CDTE] 9

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Online Portfolio Selection (OLPS) requires a careful mix of assets to minimize risk and maximize rewards over a trading episode. The stochastic, non-stationary aspect of the market makes decision-making very complex. Heuristic methods relying on historical returns were traditionally used to select assets that found a balance of risk and reward. However, improvements in modeling time series from Neural Networks led to new solutions. Deep Reinforcement Learning (DRL) has become a popular approach to solve this problem, but its methods rarely reach a consensus among publications. In other fields, solutions using non-Markovian state representations are frequent. Crafting rewards to improve agent learning is common but has effects on the resulting behaviors. The resulting processes are rarely compared to other recent State-of-the-Art solutions but to heuristic algorithms. The proliferation of approaches motivated us to benchmark them using traditional financial metrics, and evaluate their robustness over time and across market conditions. We aim to evaluate the contributions to measured performance from each method in market representation, policy learning and value estimation.

Assessing the Impact of Interactivity in the Cognitive Domain: A Noise Ratings Case Study [CLDE] 13

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The widescale implementation of Emergency Remote Teaching during the pandemic has normalized the use of blended and online learning-tools in third-level education. However, many of these digital tools are not designed to achieve specific learning objectives, leading to mixed results reported by instructors and students. Although such tools aim to make the educational experience an active one for students, there is limited empirical data on their effectiveness on knowledge-acquisition and learning. These issues are more pronounced in some disciplines compared to others, and in this paper, we present an assessment of a newly-developed interactive application relevant to music-technology - a discipline that is traditionally reliant on campus-based, in-studio experiences. In a user-study comparing a traditional approach and the use of this interactive application to present the topic ‘Noise Ratings’ to undergraduates, results show significant improvements on questions in the “Understand” and “Application” taxonomy levels between pre- and post-time intervals.

Part II Programming, Software and Data Engineering19

LitP: Language-integrated Tensor Parallelism [AHPC] 21

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LitP, is a new data-parallel programming model for .NET respectively C#. It has been designed specifically to run data-parallel calculations in a managed runtime system. It can be used to solve a wide range of problems. Programs are described in vectorized form, but abstract from low-level architectural details of the target hardware. This allows for a good compromise between simplicity and performance. The presented library currently targets GPUs and CPUs, but is in principle well suited to any kind of general purpose, parallel processing unit.

Automatic Test Generation for Microservices Based on Consumer-Driven Contracts (CDC) [SERD] 29

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Microservices offer a shorter time-to-market by improving productivity with maximizing the automation of the software development lifecycle. However, when dealing with such systems, there are important design principles like their solidness and test coverage, which should be considered to be able to co-operate well in a distributed environment especially from the architecture level. However, for the provider of a service, it might be challenging to maintain the obligations needed by the consumer. Therefore, in this approach a form of agreement is written by the consumer of the service, which is called contract. In this paper, a language agnostic, no-code

approach is proposed for conducting the consumer-driven contract concept, through automatically converting the contracts into a set of solid test suites, that runs on each deployment. Consequently, if the service provider alters the returned data in a way that breaks the expectations of the consumer, this breaking change will be detected early by running the auto-generated test suites. The proposed approach also provides an insight for the provider, on how their service is being used and how changes can affect the consumers. Then it gets evaluated with a dataset of 56 open-source projects available on Github which use consumer-driven contract testing. The results demonstrate that for 56 real source projects, the proposed approach has been able to generate 450 tests from the contract files in the sources and 90% of the generated test suites passed.

Part III Safety and Consumer Assistance Applications and Supports35

Safety of Cameroonian Consumer in eCommerce [CECA] 37

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The exponential development of Information and Communication Technologies (ICT) has a considerable impact on e-technologies and particularly e-commerce, e-banking, e-payment, etc. This rapid evolution is materialized in Cameroon by the national high-bandwidth fiber optic backbone of more than 100,000 km serving all departments. International connectivity is diversified and an ACE (Africa Coast to Europe) submarine cable is under construction with a landing point in Kribi. An optical fiber connects Cameroon to Brazil. One of the players in e-commerce is the consumer who makes purchases using this technology through which enormous financial resources are transited. [2]. These financial means, which are in digital form, attract malicious people who would like to exploit the flaws of e-commerce to take advantage of them. The latter will carry out multiple attacks in order to weaken the system.

In Cameroon, do regulatory and technological measures sufficiently protect the consumer when shopping on the web? We will first present the e-commercial environment with all the links that compose it, the potential attacks. In a second step, we will present the measures to protect the Cameroonian consumer when shopping. This protection is achieved both by regulations and by the technological means implemented by Cameroon.

Advances in Veterinary Sterilization Equipment [CGRT] 43

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This paper describes the recent advances in the development of veterinary sterilization equipment. An analysis of autoclaves, dry-heat, chemical and plasma sterilizers utilized in veterinary applications is performed to illustrate the state of available commercial instruments. The technical and commercial benefits of each technology are examined in the comparison, including the environmental impact.

A Novel Agent-Based Intrusion Detection System for Wireless Body Area Network [AHIT]	47
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The objective of e-health is to assist patients in improving health care through integrating a wireless body network, communication infrastructure, and hospital network. The patient monitoring system assists patients better understand their health daily. The mobility and dynamism offered by e-health services expose the health system to the risk of attacks and intrusions. However, securing patient information and confidentiality is essential to ensure quality care. Current research on security in e-health focuses on implementing authentication, encryption, and trust-based solutions for implanted and wearable medical devices. These solutions are often computationally expensive and challenging to implement on medical devices with limited resources. This paper proposes a novel intrusion detection system based on agent technology to protect patients' medical data. The proposed method detects network-level intrusions as well as anomalies in sensor data. Our model was experimented with by simulating a hospital network topology. Our simulation results demonstrate that we can achieve high detection accuracy.

Author Index	53
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