€1.8M to create a new version of a risk management platform compatible with 5G

The new version of the RAID platform will allow telecommunications operators to detect fraud in real time, which translates into greater security and quality of service for companies and customers.

Improving the RAID platform, a system marketed by the telecommunications analyst Mobileum for the comprehensive risk management in companies, thus making it compatible with 5G networks and edge computing. This is the objective of the AIDA project: *Adaptive, Intelligent and Distributed Assurance Platform*, with €1.8M funding by the European Union.

“RAID is currently operated in-house or in the cloud. This new version of the platform will help addressing the needs of telecommunications operators, namely through fraud detection solutions that ensure revenue maintenance, while sustaining a technological evolution in distributed computing and artificial intelligence. This solution follows the most dynamic rate of provision of network capacity, required by the industry”, explained Ricardo Vilaça, researcher at the Institute for Systems and Computers Engineering, Technology and Science (INESC TEC) and Assistant Researcher at UMinho.

5G is becoming an increasingly crucial technology for companies, since it focuses on reducing latency in mobile communications and increasing the bandwidth available to different terminals. “These new protocols that we are going to develop open new scenarios of use in the industrial sector, with the development of private networks that leverage the use of high computational power for decision-making in real time, in sectors like automotive industry, augmented reality, distribution of 8K content, gaming with immersive specs, among others”, added Ricardo Vilaça.

In addition, edge computing is an essential part of the 5G platforms, since it provides execution, computing and storage resources for devices with networks closer to end users - namely when compared to cloud computing – and enables services with lower latency, thus serving a greater number of devices with better quality of service. “This project has an impact on the detection of fraud, in a preventive and real-time manner, and also on the consumer experience and the cost of telecommunications operators”, concluded Ricardo Vilaça.

Making RAID compatible with the 5G networks and edge computing raises two additional challenges: data privacy and security in the new version of the platform. In this sense, the group of researchers will focus on data dispersion and subsequent communication of said data, with different levels of confidentiality - which requires the development of secure protocols for communication and encryption of sensitive data, without losing essential elements to the execution of automatic learning models.

The gathering of information and the location of data will also require the adoption of support tolls for the execution of automatic learning models, in a federated and distributed way, in contrast to the currently used centralisation.

"RAID is used worldwide as the smart tool for ensuring revenue and identifying and preventing the occurrence of frauds. Concerning telecommunications, a failure in one of the communication points (e.g. interrupting calls) can lead the user to change operators, which translates into a drop in revenue. This new version of RAID will also increase the platform's scalability", said Carlos Martins, Senior Product Owner at Mobileum.

The project was selected as part of the "Go Portugal - Global Science and Technology Partnerships Portugal" initiative, within the scope of the CMU Portugal Program. The project's promoter is Mobileum, with INESC TEC, the University of Coimbra and the Carnegie Mellon University as partners. The European Union funds this project by 1.791,00€, namely through the North Portugal Regional Operational Programme, the COMPETE 2020, the Foundation for Science and Technology (FCT), partner companies and the Carnegie Mellon University, in the frame of the CMU Portugal Program.

More information available on the project's website: https://aida.inesctec.pt

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