Data Autonomic Cycles for Antibiotics Data Analytics by Using ARMNA-NO Middleware

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The autonomic systems are strategic platforms to make continued optimal search of medicaments addressed to a specific affection. ARMNANO, meaning Autonomic Reflective Middleware for the Management of Nanosensors have arisen like a solution to act autonomously in the solution of an health related context by deploying the appropriate autonomic cycles (AC) that acts in it utilizing Nano sensors and Nano actuators. We have determined an AC that adapt to the context in fulfilling an issue gap in the field of antibiotic-related sectors. The adaptation comes up from the task flexibility in the structure, converting the solution in a step-by-step assembly that iterates until getting the outcome. In this work, ARMNANO architecture was applied through an AC, in areas such as antimicrobial resistance, where the key task of the AC was to determine the maximum concentration of medicament in blood before there is no bacterial killing. Also, the applications considered the field of drug discovery and novel illness technology, where the AC included to search the existing core of drugs for antibiotics focus, and propose novel ones with minimum variations in functional groups, trying to keep less lethality and bigger actionability into the target. Finally, for the antibiotics emerging infections, the steps selection considered to identify the bacteria type in the infection and try to assign the optimal selection from the available drugs in the core of drugs found in the market. In this study we are going to mention several case studies explaining the ARMNANO deployment through the AC acting in different areas of antibiotics interest.

Biography

Alberto Lopez Pacheco graduated of Science in Chemistry with Cum Laude Distinction from Universidad de Los Andes (Venezuela). He got a Fundayacucho Scholarship for the undergraduate studies, and the Best Student in Chemistry Scholarship awarded by the Universidad de Los Andes. Also, He was an Assistant of Professor during 1 year and a half. Then, He got a scholarship to study my Master in Nanoscience and Nanotechnology in Universitat Rovira I Virgili (Spain), performing the thesis relying in a pulsetrode method optimization to determine cations in water using CNT-based Nanosensors. Finally, He is finishing his Doctorate in Applied Science with a research tilted to informatics applications. He has published several papers in the sector of ARMNANO middleware incorporating Nanosensors and Nanoactuators to deploy autonomous services. Among these services they emphasize in eHealth solutions.

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