**Abstract of the presentation:**Electric vehicles (EVs) have been adopted in urban areas to reduce environmental pollution and global warming as a result of the increasing number of freight vehicles. However, there are still deficiencies in routing the trajectories of last-mile logistics that continue to impact social and economic sustainability. For that reason, this presentation will describe a new approach called Hyper-heuristic Adaptive Simulated Annealing with Reinforcement Learning (HHASARL) to solve the Capacitated Electric Vehicle Routing Problem (CEVRP). The proposed algorithm improves multiple best-known minimum solutions and obtains the best average values for many instances of the IEEE WCCI2020 competition benchmark dataset. In addition, a new proposal still under development will be discussed to generate a robust model using deep reinforcement learning that works for both short and large problems.

**Short CV:**Erick studied biomedical engineering and has a master of science degree focused on artificial intelligence and evolutionary computation. Currently, he is a researcher and a PhD student in engineering at the University of Deusto with specific interest in image processing, metaheuristic optimization algorithms, machine learning and deep learning with applications in real-world problems. He has 4 publications in journals, presented in 5 international conferences and written 3 book chapters.