

Bachelor Thesis 2020

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Research field/project	An Intelligent BLE-Based Localization using Machine Learning
Compulsory Qualification of students	Wireless Communication/Mobile Communication Arduino/ESP Programming Watson
Description (URL for research information)	<p>Bluetooth Low Energy (BLE) is a front runner technology when it comes to IoT. The BLE popularity and tremendous growth stems from the fact that a BLE transceiver is shipped with all new smart phones. As a result, there are possibly billions of devices with BLE technology over the globe.</p> <p>Localization could be one of the key elements in a diverse set of IoT applications. Accordingly, in this thesis it is required to develop an intelligent BLE-based. Indoor environments vary from their layouts, location of antennas, building materials, ...etc. Such discrepancy makes a standardized localization solution quite challenging. Consequently, machine learning tools in this project will be called upon to contribute to help in the localization process by learning the signal strength profile of a general indoor environment under study and contribute to the enhance the accuracy of the localization process. This thesis is part of the Gawla project (a software platform for enriching the museum experience)</p>