Paper ID	T1-P01
Title	**Scan matching and KNN classification for mobile robot localisation algorithm**
Authors	**Addie Irawan, Marni Azira Markom Adom , A.H. and Mohd Muslim Tan, E.S.**

Abstract:

Mobile robots have made tremendous impact in our modern lives today, and its development is set to continue further. One of the most important domains to allow the interaction of mobile robots with human is its ability to know where it is in its environment, and how to navigate through it. This ability, however, needs algorithm has become more complex and hence requires high computational ability due to the demand for high accuracy, real time implementations and multi-tasking requirements. These are partly due to the need of multi-sensory system. This paper presents the use of single laser range finder for the mobile robot mapping and localisation system. The localisation algorithm is developed using scan matching method which is incorporated with KNN classification. The mobile robot and the developed algorithm are tested in static environment where there is no obvious and fast moving object. The results of the location estimation are able to achieve 80% of accuracy .