



## Visual Localization—Volume II

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### Message from the Guest Editor

The tasks involved in autonomous navigation (UAVs, robots and autonomous vehicles) can be categorized into five major modules: perception, localization, mapping, planning and control.

The localization module aims to determine the vehicle's pose (3D location and orientation) and plays a critical role in autonomous navigation. Navigation safety and comfort are highly dependent on the accuracy and robustness of this module.

This localization can be absolute (GPS coordinates or metric coordinates in a known map) or relative (the localization of the vehicle with respect to its lane, with respect to its initial pose, etc.). Although there are systems dedicated to localization, such as GPS, the accuracy of localization and signal loss in difficult environments (indoor or urban environments) make them unsuitable for autonomous navigation.

When the localization module uses only one camera, it is referred to as visual localization. The latter is particularly important for improving the accuracy and robustness of localization in difficult environments.





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## Message from the Editor-in-Chief

The imaging term, specific with journal, is to be considered in its broadest sense. Image processing, image understanding and computer vision are all terms related to imaging acquisition, its processing and the extraction of relevant information from the scene to obtain the underlying knowledge. All tasks related to the above items are oriented toward specific applications in a broad range of areas and topics. The *Journal of Imaging* is conceived as an efficient vehicle in the scientific community for the communication and transmission of the progress and research results in the topics covered.

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