UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH
Department of Signal Theory
and Communications

Recommendation Letter about Mr. Ruochen Wu

Barcelona, 9 March 2022

I met Mr. Ruochen Wu at the beginning of 2022 academic year when he started his PhD research activity in our Remote Sensing research group under my guidance and main supervision. I was greatly impressed by a first presentation that Mr. Ruochen Wu delivered to us, showing his research ideas about remote sensing techniques to improve Situation Awareness for [redacted] systems.

Mr. Ruochen Wu has a good comprehension of both relevant challenges on automatic vehicle control and safety improvement, as well as the possible sensor, processing, machine learning and artificial intelligence techniques that can provide significant advances. For these reasons, I offered him the opportunity to participate in an ongoing international project (RideSafeUM) focused on safety improvement of urban micromobility, based on data processing of inertial sensors for automatic accident detection and reporting.

In his work with us Mr. Ruochen Wu has shown a deep understanding of the problems and requirements and very quickly proposed a new accident detection algorithm based on Constant False Alarm Rate techniques, which he had already experienced in the context of radar data processing. He has also participated in the experimental tests to evaluate his proposed techniques, with very positive results. [redacted] We expect that this activity will originate several publications, including two papers published in high impact international journals. The planned research activity will extend the sensor and data processing techniques using radars for Situation Awareness in advanced [redacted] applications, including Synthetic Aperture Radar with Moving Target Indicator adaptive processing, for [redacted].

In his work with us, Mr. Ruochen Wu has shown excellent understanding of the assigned tasks, good initiative, sound analysis and programming skills and an outstanding work capacity. He has very good English and Spanish language knowledge which facilitates his interaction with other PhD students and professors. In the personal aspects, he is positive and enthusiastic on continuing his training and education on top level PhD research. For these reasons, as his PhD research Project Supervisor, I fully support his candidature in the CSC PhD Scholarship Programme.

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