

Stage 3 – Dissemination

1. C. Leca, I. Nicolaescu, and P. Ciotirnae, "*Crowdsensing Influences and Error Sources in Urban Outdoor Wi-Fi Fingerprinting Positioning*", *Sensors* **2020**, 20, 427. ISSN 1424-8220; CODEN: SENSC9 <https://doi.org/10.3390/s20020427> , IF=3,031 (2018),

<https://www.mdpi.com/journal/sensors>

Abstract - Wi-Fi fingerprinting positioning systems have been deployed for a long time in location-based services for indoor environments. Combining mobile crowdsensing and Wi-Fi fingerprinting systems could reduce the high cost of collecting the necessary data, enabling the deployment of the resulting system for outdoor positioning in areas with dense Wi-Fi coverage. In this paper, we present the results attained in the design and evaluation of an urban fingerprinting positioning system based on crowdsensed Wi-Fi measurements. We first assess the quality of the collected measurements, highlighting the influence of received signal strength on data collection. We then evaluate the proposed system by comparing the influence of the crowdsensed fingerprints on the overall positioning accuracy for different scenarios. This evaluation helps gain valuable insight into the design and deployment of urban Wi-Fi positioning systems while also allowing the proposed system to match GPS-like accuracy in similar conditions.