

Submission Summary

Conference Name

2024 International Radar Conference

Paper ID

112

Paper Title

Reliable Traffic Monitoring Using Low-Cost Doppler Radar Units

Abstract

Road traffic monitoring typically involves the counting and recording of vehicles on public roads over extended periods. The data gathered from such monitoring provides useful information to municipal authorities in urban areas. This paper presents a low-cost, widely deployable sensing subsystem based on Continuous Wave Doppler radar. The proposed system can perform vehicle detection and speed estimation with a total cost of less than 100 USD. The sensing system (including the hardware subsystem and the algorithms) is designed to be placed on the side of the road, allowing for easy deployment and serviceability.

Created

3/15/2024, 6:30:35 PM

Last Modified

3/15/2024, 6:30:35 PM

Authors**Mishay Naidoo** (University of Cape Town) <ndxmis011@myuct.ac.za> ✓

Stephen Paine (UCT) <stephen.paine@uct.ac.za> ✓

Yunus Abdul Gaffar (University of Cape Town) <yunus.abdulgaffar@uct.ac.za> ✓

Amit Mishra (University of Cape Town) <amit.mishra@uct.ac.za> ✓

Primary Subject Area

Applications -> Automotive radar

Secondary Subject Areas

Radar Signal Processing and Methods -> Detection and Estimation

Submission Files

Reliable Traffic Monitoring Using Low-Cost Doppler Radar Units.pdf (932.6 Kb, 3/15/2024, 6:25:24 PM)

Submission Questions Response**1. Author Consent**

By submitting this paper, you agree that all authors are aware of and consent to this submission.

Agreement accepted

2. Affiliation Type

Affiliation Type

Academia

3. Keywords

Enter up to 5 keywords separated with commas. (125 characters max.)

Traffic Monitoring, Doppler Radar, Low-Cost

4. Preferred Presentation Type

Preferred Presentation Type.

Either

5. Best Young Scientist Paper Award Contest

Do you want to apply to the Best Young Scientist Paper Award Contest?

Eligibility requires the candidate to be the first author of the paper published in the Conference Proceedings, to be the major contributor to both the written paper and the results described in it, to effectively present the paper during either an oral or poster session and to be under 35 years of age at the date of the award. Detailed information concerning eligibility criteria will be required upon submission of the final paper.

yes

6. Best Open-Source Experiment Award Contest

Do you want to apply to the Open-Source Experiment Award Contest?

Eligibility requires that the results described in the article published at the conference show a significant experimental part, relying on open source hardware and software, such as the GnuRadio software. Collaborations with the amateur radio or open source community will be particularly appreciated. Detailed information concerning eligibility criteria will be required upon submission of the final paper.

no
