Record 1 of 1

Title: Sending CAN Flexible Data-Rate Frames in an Automatic Manner to Improve Vehicle Diagnose Processes

Author(s): Krech, FA (Krech, Florian-Aurelian); Stângaciu, CS (Stangaciu, Cristina-Sorina); Micea, MV (Micea, Mihai V.)

Edited by: Nedevschi S; Potolea R; Slavescu RR

Source: 2024 IEEE 20TH INTERNATIONAL CONFERENCE ON INTELLIGENT COMPUTER COMMUNICATION AND PROCESSING, ICCP 2024 **Book Series:** IEEE International Conference on Intelligent Computer Communication and Processing ICCP **Pages:** 77-83 **DOI:** 10.1109/ICCP63557.2024.10793030 **Published Date:** 2024

Abstract: This paper provides an algorithm for the Controller Area Network (CAN) protocol, which enables transmission of CAN single frames and CAN flexible data-rate frames in an automatic manner. The automotive industry is of key importance nowadays and, in this context, our research focuses on autonomous/ automatic diagnosis and predictive maintenance techniques, which can also be easily extended to other important areas such as mechanical engineering, robotics, avionics, healthcare and so on. Our study shows improvements of up to 14% for validating and interpreting the data with respect to the response time of the ECU, which is not negligible for real-life and industrial applications, where time efficiency in detecting malfunctions is a sensitive issue.

Accession Number: WOS:001450074600010

Language: English

Document Type: Proceedings Paper

Conference Title: 20th International Conference on Intelligent Computer Communication and Processing

Conference Date: OCT 17-19, 2024

Conference Location: Cluj-Napoca, ROMANIA

Author Keywords: CAN FD; automatic diagnosis; predictive maintenance; fault-tolerant systems; quality control

Addresses: [Krech, Florian-Aurelian; Stangaciu, Cristina-Sorina; Micea, Mihai V.] Politehn Univ Timisoara, Dept Comp & Informat Technol, 2 V Parvan Bvd, Timisoara, Romania.

Corresponding Address: Krech, FA (corresponding author), Politehn Univ Timisoara, Dept Comp & Informat Technol, 2 V Parvan Bvd, Timisoara, Romania.

E-mail Addresses: florian.krech@cs.upt.ro; cristina.stangaciu@cs.upt.ro; mihai.micea@cs.upt.ro

Affiliations: Universitatea Politehnica Timisoara

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Micea, Mihai	B-5581-2011	
Stangaciu, Cristina	AAX-6452-2020	

Publisher: IEEE

Publisher Address: 345 E 47TH ST, NEW YORK, NY 10017 USA

Web of Science Index: Conference Proceedings Citation Index - Science (CPCI-S)

Web of Science Categories: Computer Science, Artificial Intelligence; Computer Science, Interdisciplinary Applications; Computer Science, Theory & Methods

Research Areas: Computer Science

IDS Number: BY4US

ISSN: 2065-9946
ISBN: 979-8-3315-3998-6; 979-8-3315-3997-9
29-char Source Abbrev.: INT C INTELL COMP CO
Source Item Page Count: 7
Output Date: 2026-02-01

End of File