

Fortschritt-Berichte VDI

Reihe 10

Informatik/
Kommunikation

Herwig Unger,
Wolfgang A. Halang (Eds.)

Nr. 842

Autonomous Systems
2015

Proceedings
of the 8th GI Conference

VDI verlag

Unger, Herwig; Halang, Wolfgang A. (Eds.)

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Fortschr.-Ber. VDI Reihe 10 Nr. 842. Düsseldorf: VDI Verlag 2015.

376 Seiten, 149 Bilder, 33 Tabellen.

ISBN 978-3-18-384210-0, ISSN 0178-9627,

€ 126,00/VDI-Mitgliederpreis € 113,40.

Keywords: Autonomous Systems – Methods and Algorithms – Concepts – Hardware Architectures – Computer Networks – Natural Language Processing – Modeling and Simulation – Security – Big Data

As foundations of autonomous (computing) systems, hardware modules being fast and as compact as on-chip networks, novel hardware-based security and verification procedures to prove their dependability are considered. Owing to their growing complexity and their embedding in complex environments, their design becomes more and more tedious. As a relief in this situation, interdisciplinary ideas combining models, analytical methods, simulations and architectural concepts are developed. Matching the broad application range of autonomous systems, theoretical approaches and algorithmic solutions based on game and graph theory, but also on methods such as simulation, big data processing, data mining and classification aim to ensure secure, fault-tolerant and uninterrupted operation and data communication with their environments. It is striven to endow autonomous systems with capabilities of self-organisation and adaptability as necessary to meet the needs of users and the surrounding world by employing methods from statistics, machine learning, searching, content and natural language processing.

Bibliographische Information der Deutschen Bibliothek

Die Deutsche Bibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliographie; detaillierte bibliographische Daten sind im Internet unter <http://dnb.ddb.de> abrufbar.

Bibliographic information published by the Deutsche Bibliothek

(German National Library)

The Deutsche Bibliothek lists this publication in the Deutsche Nationalbibliographie (German National Bibliography); detailed bibliographic data is available via Internet at <http://dnb.ddb.de>.

Schriften zur Informations- und Kommunikationstechnik

Herausgeber:

Wolfgang A. Halang, Lehrstuhl für Informationstechnik

Herwig Unger, Lehrstuhl für Kommunikationstechnik

FernUniversität in Hagen

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Als Manuskript gedruckt. Printed in Germany.

ISSN 0178-9627

ISBN 978-3-18-384210-0

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