Dr.-Ing. Alexandru Kampmann

Member of the Cyber-physical Mobility Group

Contact

Birth name: Gurghian

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About

As a member of the Cyber-physical Mobility Group. I am researching automotive-grade service-oriented software architectures in the context of the UNICARagil project.

Bachelor/Master Thesis

If you are interested in a Bachelor's or Master's thesis, please contact me by e-mail. Your own suggestions are also possible.

Open HiWi/WiHi Positions

Current vacancies can be found here. Unsolicited applications are also welcome. Applications should include a grade overview and a short CV.

Patents

- Methods and systems for opening of a vehicle access point using audio or video data associated with a user
- Passenger tracking systems and methods
- Inductive loop detection systems and methods
- Pedestrian detection when a vehicle is reversing
- Sinkhole detection systems and methods
- Detecting hazards in anticipation of opening vehicle doors
- Rear camera stub detection
- Accident attenuation systems and methods
- Lane detection systems and methods
- Vehicle localization using cameras

Publications

[GRB+24]
PDFBIB

Goldermann, L., Rakel, S., Buglowski, M., Mokhtarian, A., Kampmann, A., Janß, A., Yilmaz, O., Beger, F., Walter, M., Leonhardt, S., Kowalewski, S., and Stollenwerk, A., "Designing the user interface of a ventilator under the constraints of a pandemic", *Automatisierungstechnik*, vol. 72, iss. 5, pp. 484-495, 2024

Designing the user interface of a ventilator under the constraints of a pandemic

Bibtex entry :

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@article {  GRB+24,
    author = { Goldermann, Lavinia and Rakel, Stefan and Buglowski,
Mateusz
        and Mokhtarian, Armin and Kampmann, Alexandru and Jan{\ss},
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        and Leonhardt, Steffen and Kowalewski, Stefan and
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    title = { Designing the user interface of a ventilator under the
        constraints of a pandemic },
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    journal = { Automatisierungstechnik },
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    pages = { 484-495 },
    volume = { 72 },
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    address = { Berlin },
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    doi = { 10.1515/auto-2023-0205 },
    typ = { PUB:(DE-HGF)16 },
    reportid = { RWTH-2024-04857 },
    cin = { 122810 / 611010 / 419410 / 120000 },
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[BMA+23]
PDFBIB

Böhlen, B., Meyer, O., Alrifaee, B., Beerwerth, J., Kampmann, A., Kowalewski, S., Konersmann, M., Rumpe, B., and Steinfurth, F., "Software-Defined Vehicle – Herausforderungen in der Diagnose dienstorientierter Fahrzeugarchitekturen", in *Proc. Diagnose in mechatronischen Fahrzeugsystemen XVI : Software-Defined Vehicle, SOVD, Maschinelles Lernen und KI, Standardisierung, HU und ADAS / Prof. Dr. Bernard Bäker, Dipl.-Ing. Andreas Unger (Hrsg.) und 53 Mitautoren*, Dresden, 2023, TUDpress, pp. 17-28.

Software-Defined Vehicle – Herausforderungen in der Diagnose dienstorientierter Fahrzeugarchitekturen

Bibtex entry :

```
@inproceedings {  BMA+23,
    author = { B{\"o}hlen, Boris and Meyer, Oliver and Alrifaee, Bassam
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        Beerwerth, Julius and Kampmann, Alexandru and Kowalewski,
        Stefan and Konersmann, Marco and Rumpe, Bernhard and
        Steinfurth, Felix },
    title = { Software-Defined Vehicle – Herausforderungen in der
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    booktitle = { Diagnose in mechatronischen Fahrzeugsystemen XVI :
        Software-Defined Vehicle, SOVD, Maschinelles Lernen und KI,
        Standardisierung, HU und ADAS / Prof. Dr. Bernard B{\"a}ker,
        Dipl.-Ing. Andreas Unger (Hrsg.) und 53 Mitautoren },
    publisher = { TUDpress },
    pages = { 17-28 },
    year = { 2023 },
    address = { Dresden },
    organization = { 16. Tagung Diagnose in mechatronischen
Fahrzeugsystemen,
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    typ = { PUB:(DE-HGF)7 },
    reportid = { RWTH-2023-10164 },
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    url = {
http://publications.rwth-aachen.de/record/972417/files/972417.pdf },
    i11key = { BMBF 01IS22088A - Verbundprojekt MANNHEIM-AUTOtech.agil:
        Architektur und Technologien zur Orchestrierung
        automobiltechnischer Agilit{\"a}t (01IS22088A) },
}
```

[Kam23]
PDFBIB

Kampmann, A., "A dynamic service-oriented software architecture for the automotive domain", PhD Thesis, Aachen, 2023.

A dynamic service-oriented software architecture for the automotive domain

Bibtex entry :

```
@phdthesis {  Kam23,
    author = { Kampmann, Alexandru },
    othercontributors = { Kowalewski, Stefan and Eckstein, Lutz },
    title = { A dynamic service-oriented software architecture for the
        automotive domain },
    publisher = { RWTH Aachen University },
    school = { RWTH Aachen University },
    pages = { 1 Online-Ressource : Illustrationen },
    series = { Aachener Informatik-Berichte (AIB) },
    year = { 2023 },
    address = { Aachen },
    doi = { 10.18154/RWTH-2024-00864 },
    typ = { PUB:(DE-HGF)11 },
    reportid = { RWTH-2024-00864 },
    cin = { 122810 / 120000 },
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http://publications.rwth-aachen.de/record/977648/files/977648.pdf },
}
```

[KLK+22]
PDFBIB

Kampmann, A., Lüer, M., Kowalewski, S., and Alrifaee, B., "Optimization-based Resource Allocation for an Automotive Service-oriented Software Architecture", in *Proc. 2022 IEEE Intelligent Vehicles Symposium (IV) : 4-9 June 2022 / publisher: IEEE*, Piscataway, NJ, 2022, IEEE, pp. 678-687.

Optimization-based Resource Allocation for an Automotive Service-oriented Software Architecture

Bibtex entry :

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@inproceedings {  KLK+22,
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    author = { Kampmann, Alexandru and L{\"u}er, Maximilian and
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        Service-oriented Software Architecture },
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    pages = { 678-687 },
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http://publications.rwth-aachen.de/record/853127/files/853127.pdf },
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```

[KLP+22]
PDFBIB

Kampmann, A., Lamberti, M., Petrovic, N., Kowalewski, S., and Alrifaee, B., "Investigating Outdoor Recognition Performance of Infrared Beacons for Infrastructure-based Localization", in *Proc. 2022 IEEE Intelligent Vehicles Symposium (IV) : 4-9 June 2022 / publisher: IEEE*, Piscataway, NJ, 2022, IEEE, pp. 1107-1113.

Investigating Outdoor Recognition Performance of Infrared Beacons for Infrastructure-based Localization

Bibtex entry :

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@inproceedings {  KLP+22,
    author = { Kampmann, Alexandru and Lamberti, Michael and Petrovic,
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    url = {
http://publications.rwth-aachen.de/record/853126/files/853126.pdf },
}
```

[KMK+22]
PDFBIB

Kampmann, A., Mokhtarian, A., Kowalewski, S., and Alrifaee, B., "ASOA - A Dynamic Software Architecture for Software-defined Vehicles", in *Proc. [31st Aachen Colloquium Sustainable Mobility 2022]*, 2022.

ASOA - A Dynamic Software Architecture for Software-defined Vehicles

Bibtex entry :

```
@inproceedings {  KMK+22,
    author = { Kampmann, Alexandru and Mokhtarian, Armin and
Kowalewski,
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defined
        Vehicles },
    booktitle = { [31st Aachen Colloquium Sustainable Mobility 2022] },
    year = { 2022 },
    organization = { 31. Aachen Colloquium Sustainable Mobility 2022 },
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http://publications.rwth-aachen.de/record/856836/files/856836.pdf },
}
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[JSG+21]
PDFBIB

Jatzkowski, I., Stolte, T., Graubohm, R., Maurer, M., Kampmann, A., Alrifaee, B., Kowalewski, S., Buchholz, M., and Dietmayer, K., "Integration of a Vehicle Operating Mode Management into UNICARagil’s Automotive Service-oriented Software Architecture", in *Proc. 30. Aachen Colloquium Sustainable Mobility : October 4th-6th, 2021 / scientific management: Univ.-Prof. Dr.-Ing. Lutz Eckstein, Univ.-Prof. Dr.-Ing. Stefan Pischinger ; organizational management: Michaela Wacker (M. Sc.), Jonas Müller (M. Sc.) ; organized by: Institute for Automotive Engineering (RWTH Aachen University), Institute for Combustion Engines (RWTH Aachen University)*, Aachen, 2021, Institute for Automotive Engineering, RWTH Aachen University, pp. 595-614.

Integration of a Vehicle Operating Mode Management into UNICARagil’s Automotive Service-oriented Software Architecture

Bibtex entry :

```
@inproceedings {  JSG+21,
    author = { Jatzkowski, Inga and Stolte, Torben and Graubohm, Robert
and
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    title = { Integration of a Vehicle Operating Mode Management into
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    booktitle = { 30. Aachen Colloquium Sustainable Mobility : October
        4th-6th, 2021 / scientific management: Univ.-Prof. Dr.-Ing.
        Lutz Eckstein, Univ.-Prof. Dr.-Ing. Stefan Pischinger ;
        organizational management: Michaela Wacker (M. Sc.), Jonas
        M{\"u}ller (M. Sc.) ; organized by: Institute for Automotive
        Engineering (RWTH Aachen University), Institute for
        Combustion Engines (RWTH Aachen University) },
    publisher = { Institute for Automotive Engineering, RWTH Aachen
University },
    pages = { 595-614 },
    year = { 2021 },
    address = { Aachen },
    organization = { 30. Aachen Colloquium Sustainable Mobility, Aachen
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http://publications.rwth-aachen.de/record/840892/files/840892.pdf },
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[KSM+21]
PDFBIB

Kloock, M. M., Scheffe, P., Maczijewski, J., Kampmann, A., Mokhtarian, A., Kowalewski, S., and Alrifaee, B., "Cyber-Physical Mobility Lab : An Open-Source Platform for Networked and Autonomous Vehicles", in *Proc. 2021 European Control Conference (ECC)*, [Piscataway, NJ], 2021, IEEE, pp. 1937-1944.

Cyber-Physical Mobility Lab : An Open-Source Platform for Networked and Autonomous Vehicles

Bibtex entry :

```
@inproceedings {  KSM+21,
    author = { Kloock, Maximilian Martin and Scheffe, Patrick and
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    title = { Cyber-Physical Mobility Lab : An Open-Source Platform for
        Networked and Autonomous Vehicles },
    booktitle = { 2021 European Control Conference (ECC) },
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    pages = { 1937-1944 },
    year = { 2021 },
    address = { [Piscataway, NJ] },
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2021-06-29 -
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}
```

[MKL+21]
PDFBIB

Mokhtarian, A., Kampmann, A., Lüer, M., Kowalewski, S., and Alrifaee, B., "A Cloud Architecture for Networked and Autonomous Vehicles", *IFAC-PapersOnLine*, vol. 54, iss. 2, pp. 233-239, 2021

A Cloud Architecture for Networked and Autonomous Vehicles

Bibtex entry :

```
@article {  MKL+21,
    author = { Mokhtarian, Armin and Kampmann, Alexandru and L{\"u}er,
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Vehicles },
    journal = { IFAC-PapersOnLine },
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    pages = { 233-239 },
    volume = { 54 },
    number = { 2 },
    year = { 2021 },
    address = { Frankfurt },
    issn = { 2405-8963 },
    organization = { 16. IFAC Symposium on Control in Transportation
Systems,
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    doi = { 10.1016/j.ifacol.2021.06.028 },
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http://publications.rwth-aachen.de/record/828696/files/828696.pdf },
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[KMR+20]
PDFBIB

Kampmann, A., Mokhtarian, A., Rogalski, J., Kowalewski, S., and Alrifaee, B., "Agile Latency Estimation for a Real-time Service-oriented Software Architecture", *IFAC-PapersOnLine*, vol. 53, iss. 2, pp. 5795-5800, 2020

Agile Latency Estimation for a Real-time Service-oriented Software Architecture

Bibtex entry :

```
@article {  KMR+20,
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Jan
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    pages = { 5795-5800 },
    volume = { 53 },
    number = { 2 },
    year = { 2020 },
    address = { Frankfurt ; M{\"u}nchen [u.a.] },
    issn = { 2405-8963 },
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Meeting
        Societal Challenges, Berlin (Germany), 2020-07-11 -
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    doi = { 10.1016/j.ifacol.2020.12.1619 },
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    url = {
http://publications.rwth-aachen.de/record/822016/files/822016.pdf },
}
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[LvW+20]
PDFBIB

Lampe, B., van Kempen, R., Woopen, T., Kampmann, A., Alrifaee, B., and Eckstein, L., "Reducing Uncertainty by Fusing Dynamic Occupancy Grid Maps in a Cloud-based Collective Environment Model", in *Proc. 2020 IEEE Intelligent Vehicles Symposium (IV) / publisher: IEEE*, Piscataway, NJ, 2020, IEEE, pp. 837-843.

Reducing Uncertainty by Fusing Dynamic Occupancy Grid Maps in a Cloud-based Collective Environment Model

Bibtex entry :

```
@inproceedings {  LvW+20,
    author = { Lampe, Bastian and van Kempen, Raphael and Woopen, Timo
and
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    title = { Reducing Uncertainty by Fusing Dynamic Occupancy Grid
Maps
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    booktitle = { 2020 IEEE Intelligent Vehicles Symposium (IV) /
publisher:
        IEEE },
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    year = { 2020 },
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    organization = { 31. IEEE Intelligent Vehicles Symposium, online,
2020-10-19
        - 2020-11-13 },
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    typ = { PUB:(DE-HGF)7 },
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    url = { http://publications.rwth-aachen.de/record/815706 },
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[LvW+20a]
PDFBIB

Lampe, B., van Kempen, R., Woopen, T., Kampmann, A., Alrifaee, B., and Eckstein, L., "Reducing Uncertainty by Fusing Dynamic Occupancy Grid Maps in a Cloud-based Collective Environment Model", , p. 7, 2020

Reducing Uncertainty by Fusing Dynamic Occupancy Grid Maps in a Cloud-based Collective Environment Model

Bibtex entry :

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@article {  LvW+20a,
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Maps
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    url = {
http://publications.rwth-aachen.de/record/817686/files/817686.pdf },
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[MKA+20]
PDFBIB

Mokhtarian, A., Kampmann, A., Alrifaee, B., Kowalewski, S., Lampe, B., and Eckstein, L., "Agile Requirement Engineering for a Cloud System for Automated and Networked Vehicles", in *Proc. 2nd International Workshop on Autonomous Systems Design : ASD 2020, March 13, 2020, Grenoble, France, converted to a virtual event due to COVID-19, held in April 2020 / edited by Sebastian Steinhorst, Jyotirmoy V. Deshmukh*, Saarbrücken/Wadern, Germany, 2020 in OpenAccess Series in Informatics, Schloss Dagstuhl - Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, August, p. 4:1-4:8.

Agile Requirement Engineering for a Cloud System for Automated and Networked Vehicles

Bibtex entry :

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@inproceedings {  MKA+20,
    author = { Mokhtarian, Armin and Kampmann, Alexandru and Alrifaee,
        Bassam and Kowalewski, Stefan and Lampe, Bastian and
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    booktitle = { 2nd International Workshop on Autonomous Systems
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GmbH,
        Dagstuhl Publishing, August },
    pages = { 4:1-4:8 },
    series = { OpenAccess Series in Informatics },
    year = { 2020 },
    address = { Saarbr{\"u}cken/Wadern, Germany },
    organization = { 2. International Workshop on Autonomous Systems
Design,
        Grenoble (France), 2020-03-12 - 2020-03-13 },
    doi = { 10.4230/OASIcs.ASD.2020.4 },
    typ = { PUB:(DE-HGF)7 },
    reportid = { RWTH-2020-08417 },
    cin = { 122810 / 120000 / 414110 },
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[MKA+20a]
PDFBIB

Mokhtarian, A., Kampmann, A., Alrifaee, B., and Kowalewski, S., "The Dynamic Service-oriented Software Architecture for the UNICARagil Project", in *Proc. 29. Aachen Colloquium Sustainable Mobility : October 5th-7th, 2020, digital event / scientific management: Univ.-Prof. Dr.-Ing. Lutz Eckstein, Univ.-Prof. Dr.-Ing. Stefan Pischinger ; organizational management: Michaela Wacker (M. Sc.), Jonas Müller (M. Sc.) ; organized by: Institute for Automotive Engineering, RWTH Aachen University; Institute for Combustion Engines, RWTH Aachen University. - 1: October 6th, 2020*, Aachen, 2020, Institute for Automotive Engineering, RWTH Aachen University ; Aachen : Institute for Combustion Engines, RWTH Aachen University, pp. 275-284.

The Dynamic Service-oriented Software Architecture for the UNICARagil Project

Bibtex entry :

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@inproceedings {  MKA+20a,
    author = { Mokhtarian, Armin and Kampmann, Alexandru and Alrifaee,
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    title = { The Dynamic Service-oriented Software Architecture for
the
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    booktitle = { 29. Aachen Colloquium Sustainable Mobility : October
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        Univ.-Prof. Dr.-Ing. Lutz Eckstein, Univ.-Prof. Dr.-Ing.
        Stefan Pischinger ; organizational management: Michaela
        Wacker (M. Sc.), Jonas M{\"u}ller (M. Sc.) ; organized by:
        Institute for Automotive Engineering, RWTH Aachen
        University; Institute for Combustion Engines, RWTH Aachen
        University. - 1: October 6th, 2020 },
    publisher = { Institute for Automotive Engineering, RWTH Aachen
University
        ; Aachen : Institute for Combustion Engines, RWTH Aachen
        University },
    pages = { 275-284 },
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    address = { Aachen },
    organization = { 29. Aachen Colloquium Sustainable Mobility = 29.
Aachener
        Kolloquium Fahrzeug- und Motorentechnik, Aachen (Germany),
        2020-10-05 - 2020-10-07 },
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    typ = { PUB:(DE-HGF)7 },
    reportid = { RWTH-2020-11256 },
    cin = { 122810 / 120000 },
    url = {
http://publications.rwth-aachen.de/record/807282/files/807282.pdf },
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[SMK+20]
PDFBIB

Scheffe, P., Maczijewski, J., Kloock, M. M., Kampmann, A., Derks, A., Kowalewski, S., and Alrifaee, B., "Networked and Autonomous Model-scale Vehicles for Experiments in Research and Education", *IFAC-PapersOnLine*, vol. 53, iss. 2, pp. 17332-17337, 2020

Networked and Autonomous Model-scale Vehicles for Experiments in Research and Education

Bibtex entry :

```
@article {  SMK+20,
    author = { Scheffe, Patrick and Maczijewski, Janis and Kloock,
        Maximilian Martin and Kampmann, Alexandru and Derks, Andreas
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    title = { Networked and Autonomous Model-scale Vehicles for
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    journal = { IFAC-PapersOnLine },
    publisher = { Elsevier },
    pages = { 17332-17337 },
    volume = { 53 },
    number = { 2 },
    year = { 2020 },
    address = { Frankfurt },
    issn = { 2405-8963 },
    organization = { 21. IFAC World Congress, online, 2020-07-11 -
2020-07-17 },
    doi = { 10.1016/j.ifacol.2020.12.1821 },
    typ = { PUB:(DE-HGF)16 },
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    cin = { 122810 / 120000 },
    url = {
http://publications.rwth-aachen.de/record/817552/files/817552.pdf },
}
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[KAK+19]
PDFBIB

Kampmann, A., Alrifaee, B., Kohout, M., Wüstenberg, A., Woopen, T., Nolte, M., Eckstein, L., and Kowalewski, S., "A Dynamic Service-Oriented Software Architecture for Highly Automated Vehicles", in *Proc. The 2019 IEEE Intelligent Transportation Systems Conference - ITSC : Auckland, New Zealand, 27-30 October 2019 / IEEE, IEEE-ITSC 2019, ITSS - IEEE Intelligent Transportation Systems Society*, Piscataway, NJ, 2019, IEEE, pp. 2101-2108.

A Dynamic Service-Oriented Software Architecture for Highly Automated Vehicles

Bibtex entry :

```
@inproceedings {  KAK+19,
    author = { Kampmann, Alexandru and Alrifaee, Bassam and Kohout,
Markus
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        Marcus and Eckstein, Lutz and Kowalewski, Stefan },
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Highly
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    booktitle = { The 2019 IEEE Intelligent Transportation Systems
Conference
        - ITSC : Auckland, New Zealand, 27-30 October 2019 / IEEE,
        IEEE-ITSC 2019, ITSS - IEEE Intelligent Transportation
        Systems Society },
    publisher = { IEEE },
    pages = { 2101-2108 },
    year = { 2019 },
    address = { Piscataway, NJ },
    organization = { 22. IEEE Intelligent Transportation Systems
Conference,
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[KNR+19]
PDFBIB

Keilhoff, D., Niedballa, D., Reuss, H., Buchholz, M., Gies, F., Dietmayer, K., Lauer, M., Stiller, C., Ackermann, S., Winner, H., Kampmann, A., Alrifaee, B., Kowalewski, S., Klein, F., Struth, M. M., Woopen, T., and Eckstein, L., "UNICARagil - New architectures for disruptive vehicle concepts", in *Proc. 19. Internationales Stuttgarter Symposium : Automobil- und Motorentechnik / Michael Bargende, Hans-Christian Reuss, Andreas Wagner, Jochen Wiedemann (Hrsg.)*, Wiesbaden ; [Heidelberg], 2019 in Proceedings, Springer Vieweg, pp. 830-842.

UNICARagil - New architectures for disruptive vehicle concepts

Bibtex entry :

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@inproceedings {  KNR+19,
    author = { Keilhoff, Dan and Niedballa, Dennis and Reuss,
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[KWA+19]
PDFBIB

Kampmann, A., Wüstenberg, A., Alrifaee, B., and Kowalewski, S., "A Portable Implementation of the Real-Time Publish-Subscribe Protocol for Microcontrollers in Distributed Robotic Applications", in *Proc. The 2019 IEEE Intelligent Transportation Systems Conference - ITSC : Auckland, New Zealand, 27-30 October 2019 / IEEE, IEEE-ITSC 2019, ITSS - IEEE Intelligent Transportation Systems Society*, Piscataway, NJ, 2019, IEEE, pp. 443-448.

A Portable Implementation of the Real-Time Publish-Subscribe Protocol for Microcontrollers in Distributed Robotic Applications

Bibtex entry :

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@inproceedings {  KWA+19,
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[WLB+18]
PDFBIB

Woopen, T., Lampe, B., Böddeker, T., Eckstein, L., Kampmann, A., Alrifaee, B., Kowalewski, S., Moormann, D., Stolte, T., Jatzkowski, I., Maurer, M., Möstl, M., Ernst, R., Ackermann, S., Amersbach, C., Winner, H., Püllen, D., Katzenbeisser, S., Leinen, S., Becker, M., Stiller, C., Furmans, K., Bengler, K., Diermeyer, F., Lienkamp, M., Keilhoff, D., Reuss, H., Buchholz, M., Dietmayer, K., Lategahn, H., Siepenkötter, N., Elbs, M., v. Hinüber, E., Dupuis, M., and Hecker, C., "UNICARagil - Disruptive Modular Architectures for Agile, Automated Vehicle Concepts", in *Proc. 27. Aachen Colloquium Automobile and Engine Technology : October 8th-10th, 2018, Eurogress Aachen, Germany / scientific management: Univ.-Prof. Dr.-Ing. Lutz Eckstein, Univ.-Prof. Dr.-Ing. Stefan Pischinger ; organizational management: Benedikt Hammermüller (M. Sc.), Dipl.-Ing. Rainer Wolsfeld ; organized by: Institute for Automotive Engineering (RWTH Aachen), Institute for Combustion Engines (RWTH Aachen)*, Aachen, 2018, Institute for Automotive Engineering, RWTH Aachen, pp. 663-694.

UNICARagil - Disruptive Modular Architectures for Agile, Automated Vehicle Concepts

Bibtex entry :

```
@inproceedings {  WLB+18,
    author = { Woopen, Timo and Lampe, Bastian and B{\"o}ddeker, Torben
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        management: Benedikt Hammerm{\"u}ller (M. Sc.), Dipl.-Ing.
        Rainer Wolsfeld ; organized by: Institute for Automotive
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[KGK17]
PDFBIB

Kalkov, I., Gurghian, A., and Kowalewski, S., "Explicit prioritization of parallel Intent broadcasts in real-time Android", in *Proc. Concurrency and computation*, Chichester, 2017, vol. 29, Wiley.

Explicit prioritization of parallel Intent broadcasts in real-time Android

Bibtex entry :

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@inproceedings {  KGK17,
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[KGK15]
PDFBIB

Kalkov, I., Gurghian, A., and Kowalewski, S., "Priority Inheritance during Remote Procedure Calls in Real-Time Android using Extended Binder Framework", in *Proc. Proceedings of the 13th International Workshop on Java Technologies for Real-time and Embedded Systems*, New York, NY, 2015 in ACM Other conferences, ACM, p. 5.

Priority Inheritance during Remote Procedure Calls in Real-Time Android using Extended Binder Framework

Bibtex entry :

```
@inproceedings {  KGK15,
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[KGK14]
PDFBIB

Kalkov, I., Gurghian, A., and Kowalewski, S., "Predictable Broadcasting of Parallel Intents in Real-Time Android", in *Proc. Proceedings of the 12th International Workshop on Java Technologies for Real-time and Embedded Systems : JTRES 2014 : Niagara Falls, NY, USA, October 13th-14th, 2014*, New York, New York, 2014 in ACM international conference proceedings series, ACM, pp. 57-66.

Predictable Broadcasting of Parallel Intents in Real-Time Android

Bibtex entry :

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@inproceedings {  KGK14,
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