Alexandru Kampmann, M.Sc. RWTH

Member of the Cyber-physical Mobility Group

Contact

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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

[KAK+19]


A Dynamic Service-Oriented Software Architecture for Highly Automated Vehicles

Bibtex entry:

```bibtex
@inproceedings { KAK+19,  
author = { Kampmann, Alexandru and Alrifaee, Bassam and Kohout, Markus  
and W"ustenberg, Andreas and Woopen, Timo and Nolte, Marcus and Eckstein, Lutz and Kowalewski, Stefan },  
title = { A Dynamic Service-Oriented Software Architecture for Highly Automated Vehicles },}
```
[KNR+19]

PDFBIB


UNICARagil - New architectures for disruptive vehicle concepts

Bibtex entry :

@inproceedings { KNR+19,
author = { Keilhoff, Dan and Niedballa, Dennis and Reuss, Hans-Christian and Buchholz, Michael and Gies, Fabian and Dietmayer, Klaus and Lauer, Martin and Stiller, Christoph and Ackermann, Stefan and Winner, Hermann and Kampmann, Alexandru and Alrifaee, Bassam and Kowalewski, Stefan and Klein, Fabian and Struth, Michael Manfred and Woopen, Timo and Eckstein, Lutz },
title = { UNICARagil - New architectures for disruptive vehicle concepts },
publisher = { Springer Fachmedien Wiesbaden },
pages = { 830-842 },
}

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

Bibtex entry:

```
@inproceedings { KWA+19,
  author = { Kampmann, Alexandru and W{"u}stenberg, Andreas and Alrifaee, Bassam and Kowalewski, Stefan },
  title = { A Portable Implementation of the Real-Time Publish-Subscribe Protocol for Microcontrollers in Distributed Robotic Applications },
  publisher = { IEEE },
  pages = { 443-448 },
  year = { 2019 },
  address = { Piscataway, NJ },
  doi = { 10.1109/ITSC.2019.8916835 },
  typ = { PUB:(DE-HGF)7 },
  reportid = { RWTH-2019-11216 },
}  ```
{\texttt{cin = \{ 122810 / 120000 \}},
url = \{ http://publications.rwth-aachen.de/record/773701 \},
}

[\textcite{WLB+18}]


\textbf{UNICARagil - Disruptive Modular Architectures for Agile, Automated Vehicle Concepts}

\textbf{Bibtex entry :}

\begin{verbatim}
@inproceedings { WLB+18,
  author = { Woopen, Timo and Lampe, Bastian and B"oddeker, Torben and Eckstein, Lutz and Kampmann, Alexandru and Alrifaee, Bassam and Kowalewski, Stefan and Moormann, Dieter and Stolte, Torben and Jatzkowski, Inga and Maurer, Markus and Möstl, Mischa and Ernst, Rolf and Ackermann, Stefan and Amersbach, Christian and Winner, Hermann and P"ullen, Dominik and Katzenbeisser, Stefan and Leinen, Stefan and Becker, Matthias and Stiller, Christoph and Furmans, Kai and Bengler, Klaus and Diermeyer, Frank and Lienkamp, Markus and Keilhoff, Dan and Reuss, Hans-Christian and Buchholz, Michael and Dietmayer, Klaus and Lategahn, Henning and Siepenkötter, Norbert and Elbs, Martin and v. Hinüber, Edgar and Dupuis, Marius and Hecker, Christian },
  title = { UNICARagil - Disruptive Modular Architectures for Agile, Automated Vehicle Concepts },
  booktitle = { \{ 27. Aachener Kolloquium Fahrzeug- und Motorentechnik : October 8th - 10th, 2018 - Eurogress Aachen \},
  publisher = { Aachener Kolloquium Fahrzeug- und Motorentechnik GbR },
  pages = { 663-694 },
  year = { 2018 },
  address = { Aachen },
  organization = { 27th Aachen Colloquium Automobile and Engine Technology. } }
\end{verbatim}
Explicit prioritization of parallel Intent broadcasts in real-time Android

Bibtex entry:

@inproceedings { KGK17,
  author = { Kalkov, Igor and Gurghian, Alexandru and Kowalewski, Stefan },
  title = { Explicit prioritization of parallel Intent broadcasts in real-time Android },
  booktitle = { Concurrency and computation },
  publisher = { Wiley },
  volume = { 29 },
  number = { 22 },
  year = { 2017 },
  address = { Chichester },
  issn = { 1532-0626 },
  organization = { 12th International workshop on Java Technologies for Real-Time and Embedded systems, Niagara Falls, NY (USA), 2014-10-13 - 2014-10-14 },
  doi = { 10.1002/cpe.4122 },
  typ = { PUB:(DE-HGF)16 },
  reportid = { RWTH-2017-09553 },
  cin = { 122810 / 120000 },
  url = { http://publications.rwth-aachen.de/record/707959 },
}
Priority Inheritance during Remote Procedure Calls in Real-Time Android using Extended Binder Framework

Bibtex entry:

@inproceedings { KGK15,
    author = { Kalkov, Igor and Gurghian, Alexandru and Kowalewski, Stefan },
    title = { Priority Inheritance during Remote Procedure Calls in Real-Time Android using Extended Binder Framework },
    publisher = { ACM Press New York, New York, USA },
    pages = { 5, 10 Seiten },
    year = { 2015 },
    doi = { 10.1145/2822304.2822311 },
    typ = { PUB:(DE-HGF)8 },
    reportid = { RWTH-2016-03747 },
    cin = { 122810 / 120000 },
    url = { http://publications.rwth-aachen.de/record/573802 },
}

[KGK14]

Predictable Broadcasting of Parallel Intents in Real-Time Android

Bibtex entry:

@inbook { KGK14,
    author = { Kalkov, Igor and Gurghian, Alexandru and Kowalewski, Stefan },
    title = { Predictable Broadcasting of Parallel Intents in Real-Time Android },
    publisher = { ACM Press New York, New York, USA, 2014 },
    pages = { 57-66 },
    doi = { 10.1145/2588686.2588688 },
    typ = { PUB:(DE-HGF)8 },
    reportid = { RWTH-2016-03747 },
    cin = { 122810 / 120000 },
    url = { http://publications.rwth-aachen.de/record/622287 },
}

[KGK14]