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Wissenschaftlicher Mitarbeiter

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Büro: Raum 2322 (Gebäude H)

Sprechstunde

Nach Vereinbarung

Lehre

Semester	Titel	Art
Sommersemester 17	Entwicklung NXT gesteuerter LEGO-Fahrzeuge mit Java	P
Wintersemester 17/18	Praktikum Systemprogrammierung	P
	Modellbasiertes Testen & Analyse eingebetteter Software	S
Sommersemester 18	Praktikum Systemprogrammierung	P
	Modellbasiertes Testen & Analyse eingebetteter Software	S
Wintersemester 18/19	Praktikum Systemprogrammierung	P
	Seminar & Proseminar	S
Sommersemester 19	Praktikum Systemprogrammierung	P
	Seminar & Proseminar	S
Wintersemester 19/20	Praktikum Systemprogrammierung	P
	Seminar & Proseminar	S
Sommersemester 20	Praktikum Systemprogrammierung	P
	Seminar & Proseminar	S
Wintersemester 20/21	psp	P
	Seminar & Proseminar	S
Sommersemester 22	Seminar	S

Offene Abschlussarbeiten

Laufende Abschlussarbeiten

Betreute Abschlussarbeiten

- [Development of a Map Matching Algorithm for Embedded Systems.](#)
- [Development of a Movement Model for Bicycles.](#)
 - Formalisierung von Technical Assumptions und Safety Goals
 - Eingabeunterstützung für kontrollierte Sprachen
 - Evaluation von kontrollierten Sprachen
 - Import und semi-automatische Übersetzung von alten Gefährdungsanalysen
 - Implementierung kontrollierter Sprachen im Grammatical Framework
 - Methoden und Algorithmen zur Identifikation von Widersprüchen
 - Goal Structuring Notation Editor
 - Datenbankbasierte Eingabeunterstützung für Gefährdungsanalysen
 - Semantische Interpretation einer kontrollierten Sprache mit mathematischer Logik
 - Evaluation kontrollierter Sprachen für die Gefährdungsanalyse
- Lexikalische Analyse kontrollierter Sprachen und die Entwicklung eines Werkzeugs zur Eingabeunterstützung
- Klassifikation von Begründungen zur Gefährdungseinstufung durch maschinelle Lernverfahren
 - Word Embedding für semantische Textvergleiche in Gefährdungsanalysen

Publikationen

[SRT+20]

[PDF](#) [BIB](#)

Smieschek, M., Rakel, S., Thönnessen, D., Derks, A., Stollenwerk, A., and Kowalewski, S., "A Remote Test Environment for a Large-Scale Microcontroller Laboratory Course", in *Proc. Cyber physical systems : model-based design : 9th international workshop, CyPhy 2019 and 15th international workshop, WESE 2019, New York City, NY, USA, October 17-18, 2019 : revised selected papers / Roger Chamberlain, Martin Edin Grimheden, Walid Taha (eds.)*, Cham, 2020 in *Lecture Notes in Computer Science*, Springer, pp. 231-246.

A Remote Test Environment for a Large-Scale Microcontroller Laboratory Course

Bibtex entry :

```
@inproceedings { SRT+20,
  author = { Smieschek, Manfred and Rakel, Stefan and Th{"o"}nnessen,
            David and Derks, Andreas and Stollenwerk, Andr{e} and
            Kowalewski, Stefan },
  title = { A Remote Test Environment for a Large-Scale
            Microcontroller
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    Laboratory Course },
    booktitle = { Cyber physical systems : model-based design : 9th
        international workshop, CyPhy 2019 and 15th international
        workshop, WESE 2019, New York City, NY, USA, October 17-18,
        2019 : revised selected papers / Roger Chamberlain, Martin
        Edin Grimheden, Walid Taha (eds.) },
    publisher = { Springer },
    pages = { 231-246 },
    series = { Lecture Notes in Computer Science },
    year = { 2020 },
    address = { Cham },
    organization = { Workshop on Embedded Systems and Cyber-Physical
Systems
        Education, New York (USA), 2019-10-17 - 2019-10-18 },
    doi = { 10.1007/978-3-030-41131-2_11 },
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    url = {
http://publications.rwth-aachen.de/record/783169/files/Remote%20Pool%20
Final.pdf },
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[TRR+18]

[PDFBIB](#)

Thönnessen, D., Rakel, S., Reinker, N., and Kowalewski, S., "Matching Discrete Signals for Hardware-in-the-Loop-Testing of PLCs", *IFAC-PapersOnLine*, vol. 51, iss. 10, pp. 229-234, 2018

Matching Discrete Signals for Hardware-in-the-Loop-Testing of PLCs

Bibtex entry :

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@article { TRR+18,
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Niklas
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    title = { Matching Discrete Signals for Hardware-in-the-Loop-
Testing
        of PLCs },
    journal = { IFAC-PapersOnLine },
    pages = { 229-234 },
    volume = { 51 },
    number = { 10 },
    year = { 2018 },
    address = { Laxenburg },
    issn = { 2405-8963 },
    organization = { 3. IFAC Conference on Embedded Systems,
Computational
        Intelligence and Telematics in Control },
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doi = { 10.1016/j.ifacol.2018.06.267 },
typ = { PUB:(DE-HGF)16 },
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cin = { 122810 / 110000 / 120000 },
url = { http://publications.rwth-aachen.de/record/731576 },
}
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[TRR+18a]

[PDFBIB](#)

Thönnessen, D., Reinker, N., Rakel, S., Svetlakov, A., and Kowalewski, S., "Correctness Properties and Exemplified Applicability of a Signal Matching Algorithm with Multidimensional Tolerance Specifications", in *Proc. 2018 IEEE 14th International Conference on Automation Science and Engineering (CASE) : 20-24 Aug. 2018 / general chair: Birgit Vogel-Heuser (Technical University of Munich) ; publisher: IEEE, Piscataway, NJ, 2018, IEEE, pp. 1197-1202.*

Correctness Properties and Exemplified Applicability of a Signal Matching Algorithm with Multidimensional Tolerance Specifications

Bibtex entry :

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@inproceedings { TRR+18a,
  author = { Th{"o"}nnessen, David and Reinker, Niklas and Rakel,
Stefan
    and Svetlakov, Andrei and Kowalewski, Stefan },
  title = { Correctness Properties and Exemplified Applicability of a
Signal Matching Algorithm with Multidimensional Tolerance
Specifications },
  booktitle = { 2018 IEEE 14th International Conference on Automation
Science and Engineering (CASE) : 20-24 Aug. 2018 / general
chair: Birgit Vogel-Heuser (Technical University of Munich)
; publisher: IEEE },
  publisher = { IEEE },
  pages = { 1197-1202 },
  year = { 2018 },
  address = { Piscataway, NJ },
  organization = { IEEE 14. International Conference on Automation
Science and
Engineering, Munich (Germany), 2018-08-20 - 2018-08-24 },
  doi = { 10.1109/COASE.2018.8560407 },
  typ = { PUB:(DE-HGF)7 },
  reportid = { RWTH-2019-00319 },
  cin = { 122810 / 120000 },
  url = {
http://publications.rwth-aachen.de/record/752982/files/752982.pdf },
}
```

[TRR+17]

[PDFBIB](#)

Thönnessen, D., Reinker, N., Rakel, S., and Kowalewski, S., "A concept for PLC hardware-in-the-

loop testing using an extension of structured text", in *Proc. 2017 22nd IEEE International Conference on Emerging Technologies and Factory Automation : September 12-15, 2017, Limassol, Cyprus / ABB, IEEE, IES, University of Cyprus, Piscataway, NJ, 2017, IEEE, p. 8.*

A concept for PLC hardware-in-the-loop testing using an extension of structured text

Bibtex entry :

```
@inproceedings { TRR+17,  
  author = { Th{\o}nnessen, David and Reinker, Niklas and Rakel,  
Stefan  
  and Kowalewski, Stefan },  
  title = { A concept for PLC hardware-in-the-loop testing using an  
extension of structured text },  
  booktitle = { 2017 22nd IEEE International Conference on Emerging  
Technologies and Factory Automation : September 12-15, 2017,  
Limassol, Cyprus / ABB, IEEE, IES, University of Cyprus },  
  publisher = { IEEE },  
  pages = { 8 Seiten },  
  year = { 2017 },  
  address = { Piscataway, NJ },  
  organization = { 22. IEEE International Conference on Emerging  
Technologies  
and Factory Automation, Limassol (Cyprus), 2017-09-12 -  
2017-09-15 },  
  doi = { 10.1109/ETFA.2017.8247580 },  
  typ = { PUB:(DE-HGF)7 },  
  reportid = { RWTH-2018-223452 },  
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Last update: 2022/03/10 21:50

