The list is structured per guidelines of the Faculty of Mathematics and Physics, Charles University. Following the Charles University Rector’s Directives 9/2014 and 17/2014, the list also distinguishes publications with IF (Sections C1A and C3A) and publications equivalent to publications with IF (Section C3B). The list identifies publications registered in the WOS database of Thomson Reuters and in the SCOPUS database of Elsevier. Entries for publications with IF give the IF data from WOS, and, where available, the SNIP data from SCOPUS. Also where available, entries for conference publications give the CORE rank. The values listed are always the values relevant to the publication year.

B. Chapters in scientific monographs


1 Impact Factor, see http://www.webofknowledge.com/jcr

2 Source Normalized Impact per Paper is a citation indicator adjusted per subject field, in the SCOPUS database the 50th percentile is 0.52, the 75th percentile is 1.10, the 90th percentile is 1.77, see DOI: 10.1016/j.joi.2010.01.002

3 Computing Research and Education Association Conference Ranking is an occasionally updated ranking of computer science conferences on the scale of A-C, where A stands for “exceptional or excellent”, B for “good to very good”, C for “sound and satisfactory”, see http://www.core.edu.au/coreportal
C. Original scientific publications

(C1) In foreign scientific journals

(C1A) Publications with IF


WOS 2016 IF 1.025, SCOPUS 2016 SNIP 0.864.

WOS 2016 IF 2.625, SCOPUS 2016 SNIP 1.589.


WOS 2016 IF 2.444, SCOPUS 2016 SNIP 2.039.

WOS 2015 IF 1.000, SCOPUS 2015 SNIP 1.342.

WOS 2014 IF 1.408, SCOPUS 2014 SNIP 1.822.

WOS 2014 IF 1.782, SCOPUS 2014 SNIP 2.414.

WOS 2013 IF 1.148, SCOPUS 2013 SNIP 1.905.

(C1B) Other publications in [C1]


(C3) In foreign peer reviewed proceedings

(C3A) Publications with IF


(C3B) Equivalent to publications with IF

In computer science, publications at selective conferences are considered as valuable as publications with IF. This section lists full length conference publications from conferences where submissions are reviewed by at least three reviewers and where at most one third of such submissions is accepted. The criteria were chosen because they can be objectively and independently verified (the parameters of the review process and the numbers of submitted and accepted publications are taken from the program committee chairman introduction in the corresponding proceedings) and because they reasonably correspond to the selectivity and citation impact of the computer science journals, see for example DOI: 10.1145/1743546.1743569.


CORE 2012 A.

CORE 2010 A.

CORE 2008 A, ICSA 2018 Most Influential Paper Award.

(C3C) Other publications in C3

CORE 2018 C.


CORE 2017 B.

CORE 2017 B.


CORE 2014 B.


V. Mencl and T. Bures: “Microcomponent-Based Component Controllers: A Foundation for Component Aspects”. In *2013 20th Asia-Pacific Software Engineering Conference (APSEC)* 00 (2005), pp. 729–737. DOI: [https://doi.ieeecomputersociety.org/10.1109/APSEC.2005.78](https://doi.ieeecomputersociety.org/10.1109/APSEC.2005.78)


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E. Other scientific publications

(E1) Invited contributions


(E2) Software

Software prototype construction is a necessary component of research activities, serving to collect experimental results and validate research hypotheses and providing tools for further research and development. The following list includes selected software prototypes related to the listed publications. Software is a product of long term team development, detailed authorship information is available in source code repositories.

“DEECo Component Model and Runtime Framework”. 2011–2017. Component model and runtime framework targeting design of systems consisting of autonomous, self-aware, and adaptable components. This software package includes implementation in Java and C++ along with integration with several network-aware simulators and demonstrators. This software supports research results of a large number of publications, primarily of [10, 11, 26, 27]. Used as a software platform for resource sharing experiments in the EU FP7 FET project ASCENS. The relevance of the topic and results also attracted industrial research funding from Volkswagen AG.

[http://d3s.mff.cuni.cz/software/deeco/](http://d3s.mff.cuni.cz/software/deeco/)

Component framework employing hierarchically composed components and providing features like ADL-based design, behavior specification using behavior protocols, automatically generated connectors supporting seamless and transparent distribution of applications, and distributed runtime environment with dynamic update of components. This software supports research results of a large number of publications, primarily of [9, 70, 88, 57, 18]. Accepted as a project of the OW2 international open source consortium.

http://sofa.ow2.org/

These are two software artifacts addressing the same problem from two different angles. They both serve for separating responsibilities to components and coalitions, and enable easy and expressive definition of when to establish the coalition, how to select its members and what to communicate among the members. The Trait-based Coalition Formation Framework (TCOF) is a framework featuring an architecture description language for coalitions (TCOF-ADL) which is designed as a Scala internal DSL. The Intelligent Ensembles framework on the other hand uses an external DSL and is built top of the Z3 SMT solver and the Eclipse Modelling Framework. Intelligent Ensembles has been accepted as a artifact to Dagstuhl Artifact Series (DARTS). These two software artifacts (TCOF and Intelligent Ensembles) support publications [39, 42].


ESTABLISH Visualization Framework is a component of the ESTABLISH project architecture. Its main purpose is visualization and processing of data collected from IoT sensors. It focuses on streamlining creation of visualizations where ability of rapid customizing is needed. IVIS allows for easy and straightforward customization and extending even by non-developers (e.g. data analyst), who understand the data but have limited or even no programming knowledge.

https://gitlab.d3s.mff.cuni.cz/evif/ivis-core

A method and framework for designing software-intensive Cyber-Physical Systems with a focus on dependability aspects and self-adaptation of these systems. This software supports research results in [4, 6, 14, 19, 28].

http://d3s.mff.cuni.cz/software/irm/

Robotic testbed for experimentations with adaptations in smart cyber-physical systems. It combines a simulation platform based on Robotic Operating System(ROS), Stage robot simulator and OMNeT++ network simulator with DEECo component framework. It allows execution on physical robots (TurtleBot 2) or simulated execution. The testbed comes with a demo application focused on robotic cleaning.

http://d3s.mff.cuni.cz/software/ros_sCPS_testbed/

SOFA HI is a component framework targeted at high-integrity real-time embedded systems. It features a completely new implementation of SOFA in C and with restrictions and changes that are implied by the real-time and embedded environment. The defining features of SOFA HI are its predictability, low memory footprint, support for low-level programming and deployment time synthesis of components. This software is introduced in [80]. SOFA HI component framework attracted an ESA-funded project.

http://sofa.ow2.org/sofahi/index.html

(E3) Other

Other contributions are listed for consistency with the list of citations.


Keywords: Smart Cyber-physical Systems; Adaptive Architecture; Ensemble-based Component System; Group-wise Adaptation; Autonomic Systems.


H. Theses

