



Call for papers:

Knowledge-based Configuration

Special issue

Journal of Universal Computer Science

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Configuration is as a special type of design approach where the product being configured is composed from instances of a set of predefined component types that can be combined in ways defined by a set of constraints. This task requires powerful knowledge representation formalisms and acquisition methods to capture the variety and complexity of configurable products. Furthermore, efficient reasoning methods are required to support intelligent interactive behavior, solution search, satisfaction of user preferences, personalization, optimization, reconfiguration, and diagnosis. The main goal of the J.U.C.S. special issue on Configuration is to publish high-quality research in all technical areas related to Configuration.

Topics include but are not limited to the following ones:

a) Configuration Problems and Models

Structure of configuration problems, knowledge representation, ontologies, fuzzy and incomplete knowledge, standardization of catalog exchange formats, feature models,

configuration problems, representations for product and process configuration, product design and configuration.

b) Techniques for obtaining and/or maintaining Configuration Models

Knowledge acquisition methods, cognitive approaches, machine learning, data extraction methods, ontology integration, reconciliation of knowledge bases, knowledge elicitation, testing and debugging, knowledge understanding.

c) Reasoning Methods

Constraint satisfaction problems (CSPs) and extensions, preference based reasoning, description logics, rules, case-based reasoning, SAT-solving, Answer Set Programming (ASP), local search, genetic algorithms, neural networks, problem decomposition, optimization, multi-criteria optimization, symmetry breaking, cooperative configuration processes, reconfiguration of existing systems, explanations, distributed problem solving, benchmark proposals, knowledge-based recommendation, knowledge compilation.

d) Intelligent User Interfaces and Business Process Integration

Personalization, machine learning, explanations, recommender technologies, configuration web services, related software architectures, distributed configuration, integration into the production and selling process, configuration and mass customization.

e) Applications and Tools

Configuration tools, design tools, application reports, new application domains such as the Internet of Things (IoT), case studies, real-world challenges, test environments for configuration knowledge bases, configuration in related fields such as software configuration, service composition, and model-driven engineering, environments for feature model development and maintenance, design theories for applications and tools.

Deadlines:

- Submission deadline: Jan. 15th 2019
- Reviews due: March 31st 2019
- Notification of acceptance: April 15th 2019
- Resubmission deadline: May, 15th 2019
- Final acceptance notification: June 1st 2019
- Camera-ready version: June 15th 2019

Submission:

- Extended conference/workshop papers must include at least 50% new material
- The title of the extended version must clearly and unmistakably differ from the title of the article presented at the workshop/conference
- Each paper will be reviewed by 3 reviewers
- The maximum article length is 25 pages
- Detailed formatting information can be found at:
http://www.jucs.org/jucs_info/submissions
- Submission website: <https://easychair.org/conferences/?conf=jucsconfig2019>

List of Reviewers:

Yue Wang, Hang Seng Management College, Hong Kong
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