COMMUNITY

News

Calls

1 40th German Conference on Artificial Intelligence (KI)

http://ki2017.tu-dortmund.de
Dortmund, Germany: September 25–29, 2017

KI 2017 is the 40th edition of the German Conference on Artificial Intelligence organized by the Fachbereich Künstliche Intelligenz der Gesellschaft für Informatik. KI traditionally brings together academic and industrial researchers from all areas of AI, providing an ideal place for exchanging news and research results of intelligent system technology. The technical program of KI 2017 will comprise paper and poster presentations and a variety of workshops and tutorials.

KI 2017 will take place in Dortmund, Germany, September 25th-29th, 2017, and is a premier forum for exchanging news and research results on theory and applications of intelligent system technology.

You are invited to submit original research and application papers on all aspects of AI research, including but not limited to the following:

- Agent-based and multi-agent systems
- AI applications and innovations
- Belief change
- Cognitive modelling, AI and psychology
- Commonsense reasoning
- Computer vision
- Constraint satisfaction, search, and optimization
- Diagnosis and configuration
- Evolutionary computation
- Game playing and interactive entertainment
- Information retrieval, integration, and extraction
- Knowledge engineering and ontologies
- Knowledge representation and reasoning
- Knowledge discovery and data mining
- Machine learning
- Multidisciplinary AI
- Natural language processing
- Nonmonotonic reasoning and default logics
- Philosophical foundations of AI
- Planning and scheduling
- Recommender systems
- Robotics
- Uncertainty in AI
- Web and information systems

We especially welcome application papers that provide novel insights on the interplay of AI and the real world, as well as papers that bring useful computational technologies from other areas of computer science into AI.

1.1 Workshops and Tutorials

Together with the main conference, we plan to organize a small number of high-quality workshops and tutorials. We especially encourage events organized by AI Special Interest Groups (GI-Fachgruppen), events that bring together researchers from different disciplines, and events that highlight emerging topics of AI research. Tutorials should target a wide audience, including graduate students as well as experienced researchers, and practitioners.

For details on submitting workshop and tutorial proposals, please see the KI2017 webpage (http://ki2017.tu-dortmund.de).

1.2 Paper Submission

We invite papers, which have to be in English and formatted according to the Springer LNCS style, in the following two categories

- Full technical papers (12 pages max., excluding references) are expected to report on new research that makes a substantial technical contribution to the field. Additional details may be included in an appendix, which, however, will be read at the discretion of the PC.
- Technical communications (6 pages max., excluding references) can report on research in progress, research already published elsewhere, or other issues of interest to the AI community. Examples of work suitable for technical communication paper submissions include: novel ideas whose scope is not large enough for a full paper; important implementation techniques; novel interesting benchmark problems; short experimental studies; interesting applications that are not yet completely solved or analysed; position or challenge papers; etc. Technical communication submissions are especially invited for software demonstration or PhD work in progress.

Submission will be through the EasyChair conference management system:

http://www.easychair.org/conferences/?conf=ki2017

All papers will be subject to blind peer review based on the standard criteria of relevance, significance of results, originality of ideas, soundness, and quality of the presentation. All accepted papers will be published in the main conference proceedings, and will be presented at the conference. At least one author of each accepted paper must register for the conference and present the contribution. The KI 2017 proceedings will be published by Springer as a volume of the LNAI (Lecture Notes in Artificial Intelligence) series.

1.3 Important Dates

- Workshop/Tutorial proposals: Jan 30th, 2017
- Workshop/Tutorial notification: Feb 6th, 2017
- Full/Short Paper submission: May 5th, 2017
- Acceptance notification: June 16th, 2017
- Final version due: July 1st, 2017
- KI Workshops and Conference: September 25th-29th, 2017

1.4 Main Organizers

General Chair

- Gabriele Kern-Isberner (TU Dortmund)

   Program Chairs

- Johannes Fürnkranz (TU Darmstadt)
- Matthias Thimm (Universität Koblenz-Landau)

   Workshop and Tutorial Chair

- Christoph Beierle (FernUniversität in Hagen)

   Local Organizers

- Christian Eichhorn (TU Dortmund)
- Steffen Schieweck (TU Dortmund)
- Marco Wilhelm (TU Dortmund)

2 25th International Conference on Case-Based Reasoning – ICCBR 2016

http://www.iccbr.org/iccbr17
Trondheim, Norway: June 26–28, 2017

Program Chairs: David W. Aha, Jean Lieber
Organizers: Odd Erik Gundersen, Kerstin Bach

The ICCBR 2017 organizers and program committee invites submissions of original theoretical research, applied research and deployed application papers on all aspects of Case-Based Reasoning (CBR). ICCBR is the premier, annual meeting of the CBR community and the leading international conference on this topic. The CBR community welcomes experts from related fields and from industry. This year, papers on the theme "reuse by analogy" are particularly welcome: this is the second time that Trondheim hosts ICCBR and the ingredient of the previous ICCBR in Trondheim (in 2003) that has contributed to its success will be reused! From a scientific viewpoint, it is hoped that some more convergence between the analogical reasoning community and the CBR community will be achieved!

The paper submission deadline is on March 13th, 2017 and the conference will take place at the campus of the Norwegian University of Science and Technology (NTNU) in Trondheim, Norway between June 26–28 2017.

The areas of interest covered by ICCBR 2017 include, but are not limited to:

Foundations of Case-Based Reasoning

- Similarity measures, case retrieval and indexing
- Case reuse, adaptation and combination
- Maintenance, post-mortem analysis and quality assessment
- Case elicitation, case authoring, knowledge modeling and visualization
- Uncertainty, simulation and prediction
- Context models, explanations, preferences

CBR systems for task categories such as

- Process-oriented CBR, workflow management
- Case-based planning, case-based design
- CBR for traces, time-series, and temporal CBR
- Textual CBR
- Social CBR

CBR and related fields

- Analogical reasoning, cognitive models and creative reasoning
- Agent-oriented CBR, robotics
- Cloud-based CBR
- Web-based CBR, recommender systems
- Natural language processing, information retrieval
- Data mining, machine learning and big data

CBR systems, applications and lessons learned in

- Health
- E-science
- Finance
- Energy, logistics, traffic
- Game/AI
- Cooking
- Diagnosis, technical support
- Knowledge and experience management

Besides the main track, ICCBR 2017 will also feature a Doctoral Consortium, the Computer Cooking Contest as well as a workshop program, which provide an informal setting for addressing specific focus topics in an atmosphere that fosters the active exchange of ideas.

3 EA/AIE 2017 Special Track on Cognitive Vision: Integrated Vision and AI for Embodied Perception and Interaction,

Arras, France, June 27–30, 2017

The 30th International Conference on Industrial, Engineering, Other Applications of Applied Intelligent Systems (IEA/AIE 2017), France.

IEA/AIE 2017 will take place at the Université d'Artois in Arras, close to Paris, a beautiful old Flemish-style town in the Northern part of France.

Special Track Chair: Mehul Bhatt (University of Bremen, Germany)

The special track on cognitive vision addresses a range of topics in computational vision and human visual perception at the interface of cognition, language, logic, and artificial intelligence. The main emphasis is on the integration of vision and artificial intelligence from the viewpoint of embodied visual and visuo-locomotive perception and interaction.

http://hcc.uni-bremen.de/cognitive-vision/track2017/

4 International Conference on Spatial Boundaries and Transitions in Language and Interaction: Perspectives from Linguistics and Geography

Monte Verità, Ascona, Switzerland: April 23–28, 2017

Spatial boundaries can be considered as real or imaginary lines separating two things. Hence we may find natural, social, linguistic or geographical boundaries. Boundaries are often visualized on maps, and the scientific discipline most obviously concerned with them is geography. Within linguistics, the fields of dialectology and typology are traditionally concerned with boundaries, in that they mark linguistic areas on maps. Aside from this local scale, interactional spaces emerge in concrete social situations. It is this micro level of face-to-face interaction and its delimation of being "inside" and "outside" that provides the focus of interactional linguistics. Linguistic boundaries are never clear-cut, but are better characterised as overlapping transitional spaces because of myriads of interaction episodes arising from migration and urbanisation. Moreover, human interaction is being transformed by new communication technologies dissolving physical boundaries, while socio-cultural and linguistic ones may persist.

5 2nd Workshop on Models and Representations in Spatial Cognition

Tübingen, Germany: April 6–7, 2017

The workshop is a follow-up of a very successful event held at the Hanse Wissenschaftskolleg, Delmenhorst, Germany, in March 2016 (http://spatial.cs.illinois.edu/2016workshop/). It gathers researchers from the

neuro- and cognitive sciences, psychology, linguistics, computer science, geo-information systems, and mathematics. It addresses common themes and problems in the employed models of space and spatial representation. Topics include cognitive models of space and spatial behavior, geometry and graph-theory in space representation, neural networks and machine learning approaches, the role of spatial language, and the ontology of space and object representations.

Conference Reports

6 KI 2016 – 39th German Conference on Artificial Intelligence

Klagenfurt, Austria: September 26–30, 2016
Benedict WrightAG GKI, Institut für Informatik, Universität Freiburg {bwright@informatik.uni-freiburg.de}

The 39th German Conference on Artificial Intelligence took place at Alpen-Adria University Klagenfurt between 26th and 30th of September 2016. It was co-located with Informatik 2016 (Annual Conference of German Informatics Society) and MATES (German Conference on Multi Agent System Technologies). The Conference was organized by the general chair Gerhard Friedrich and the program chairs Malte Helmert and Franz Wotawa. The first two days provided a very friendly atmosphere by starting of with the workshops Trends and Applications of Answer set Programming (TAASP, organized by Johannes Fichter, and Christoph Redl), Deductionstreffen (organized by Matthias Horbach, and Christoph Benzmüller), Planen/Scheduling und Konfigurieren/Entwerfen (PUK, organized by Stefan Edelkamp, Jürgen Sauer, and Bernd Schattenberg), and Current AI Research in Austria (CAIRA, organized by Franz Wotawa, and Gerald Steinbauer), each providing their respective audience with an ideal discussion and collaboration environment, accompanied by coffee and cakes.

The remaining three days where then allocated to the main conference event, each starting of with at least one Keynote joint with one of the co-located events. On day one of the main conference Michael Wooldridge started with his talk about "*From model checking to equilibrium checking*", followed by Thomas Eiter with "*Artificial Intelligence at the Gates of Dawn?*". The second day was started with a talk by Michael May from Siemens Corporate Technology about "Towards Industrial Machine Intelligence", followed by "Industrie 4.0 und zukünftige Arbeitswelten: Praxis und Vision von Infineon Technologies Austria" given by Sabine Herlitschka from Infineon Technologies. The final keynote talk was given on Friday by Ulrich Furbach about

"Automated Reasoning an Cognitive Computing". From the 44 submissions from 18 countries, 8 where accepted as full papers, and further 12 where accepted as technical communications. Additionally a new track was added, providing researchers to present their works already accepted to a international flagship conference. This resulted in an additional 18 presentations, of which 16 where published as extended abstract to the proceedings of the KI 2016. This new track gave the attendants the possibility of seeing work presented in other major international conferences, promoting the role of the KI conference as an venue for idea exchange in the field of artificial intelligence.

The evening program was shared with the co-located events and consisted of thee dinners, each located in the beautiful scenery of the Carinthian country, providing local specialities as well as emphasizing it's close connection to its neighbours Italy and Slovenia. The main reception took place in the historic halls of former brewery, which provided a very nice ambience.

All together the KI conference in Klagenfurt provided excellent venue for scientific exchange as well as social interaction with fellow researchers.

Next years KI will take place in Dortmund, and we are looking forward to another excellent conference.

7 Angry Birds AI Competition at IJCAI'16 – BamBirds Team of the University of Bamberg is Champion

New York, USA: July 14–15, 2016
Diedrich Wolter and Ute Schmid {ute.schmid,diedrich.wolter}@uni-bamberg.de

The Angry Birds AI (AIBirds) Competition [1] follows the AI tradition to use games as challenging testbeds for AI approaches – be it chess, backgammon, robot soccer, Jeopardiy or Go. Jochen Renz of the Australian National University introduced the AIBirds Competition in 2012 at the Australasian AI conference in Sydney. The competition received much interest and it matured to become an annual event during major AI conferences (ECAI 2014 and IJCAI 2013, 2015). The 2016 competition took place at IJCAI in New York (July 14–15).
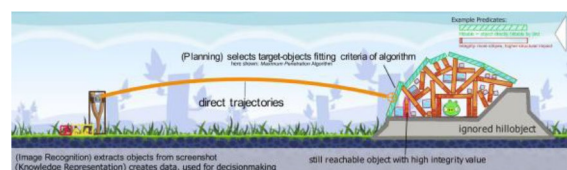
On https://aibirds.org/ it is stated that 'the long term goal is to build an intelligent Angry Birds playing agent that can

play new levels better than the best human players'. In contrast to intellectually highly demanding games like chess or Go, Angry Birds is a video game based on a physical simulation which humans easily understand and can learn to play quite successfully in a short time. The general setting of the game is that several birds which can have different properties have to be shot from a slingshot with the goal to destroy all pigs in a given scene. The pigs typically are contained in structures which can be constructed of different objects. The game is organized in levels and higher levels can involve rather complex structures. Shooting the birds in such a way that structures collapse and thereby destroying several pigs at once is often key to successful gameplay. To identify good shots, some basic understanding of physics is typically necessary to foresee how a structure will behave when hit from a certain position. That is, for an artificial agent, Angry Birds is a real challenge because the agent has to reason about the outcome of physical actions without complete knowledge of the world.

During summer term 2016, Diedrich Wolter and Ute Schmid at University of Bamberg offered a joint course for students of the Faculty Information Systems and Applied Computer Science interested in artificial intelligence, smart environments (Wolter), and cognitive systems (Schmid). The course was offered as a student project and 15 students – mainly bachelor students of Applied Computer Science and master students of Computing in the Humanities – participated. After several options were explored, the students together with their supervisors decided to do without physical simulation and machine learning. Instead, the team BamBirds based their intelligent agent on a combination of different good old fashioned AI techniques such as knowledge representation, qualitative (spatial) reasoning, and planning. The core decision procedure was implemented in SWI Prolog. Setting computer vision methods provided by the organizers aside, the students built their system nearly from the scratch and definitely earned the six credit points assigned to this course.

Diedrich Wolter presented BamBirds in New York. Eight teams participated, three of them for the first time. During the qualification round, BamBirds were far behind due to a small but effective bug in the program. After the bug fix, BamBirds survived the quarter finale and was second in the semi final. Team IHSEV from ENIB in France who already participated a few times was clear favorite for the Grand Finale. But as levels got harder, BamBirds got the upper hand. The classical knowledge-based approach proved to be more robust and flexible than the physical simulation techniques used by IHSEV.

This was the first time that students of University of Bamberg participated at an international AI competition. The faculty is very proud that the students won at first go.

Diedrich Wolter and Ute Schmid are encouraging the current and new students to continue the BamBirds project and get hopefully rewarded again at the AIBirds Competition at IJCAI 2017 in Melbourne.

Annotation of the graphic: Ferdinand Lang.

1. J. Renz, X. Ge, S. Gould, and P. Zhang. The Angry Birds AI Competition, AI Magazine, 36(2):85–87, 2015

8 2nd Global Conference on Artificial Intelligence (GCAI 2016)

Berlin, Germany: September 29 – October 2, 2016
Malumbo Chaka Chipofya, University of Muenster,
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The Global Conference on Artificial Intelligence (GCAI) is a new annual conference series targeting research contributions across all topics in the field of Artificial Intelligence (AI). The GCAI series were initiated in 2015 in conjunction with Linking Research Globally (LRG) and are supported by the Easychair platform through its new open access *EPiC Series in Computing*.

The second version of the GCAI series, GCAI 2016 was held at the Seminaris Campus Hotel in Berlin, Germany from 29th September to 2nd October, 2016. GCAI 2016 () was jointly organized by Christoph Benzmüller (Free University Berlin), Geoff Sutcliffe (University of Miami) and Raul Rojas (Free University Berlin). The conference comprised two tutorials and a single full paper presentation track.

The two tutorials were each two hours long, and were held back-to-back on 29th September. The first tutorial was titled "Automated Theorem Proving in the TPTP World" and was given by Geoff Sutcliffe. The second tutorial given by Christoph Benzmüller, Alexander Steen and Max Wisniewski of Free University Berlin was titled "Interactive and Automated Theorem Proving for Non-Classical Logics".

The main conference track started on 30th September and closed on 2nd October. Each day started with an invited talk followed by three themed sessions of 3 talks each.

In line with the broad focus of the GCAI series, the three invited talks covered very diverse topics. The first talk was given by Simon Colton of Falmouth University and Goldsmiths, University of London. In the talk "Computational Creativity: Lessons Learned" Colton summarized the work he has been doing in the area of Computational Creativity and what impact the area has for AI and other domains of knowledge. Toby Walsh who is simultaneously affiliated with the Technical University of Berlin, the University of

New South Wales and the research institute Data61 in Australia presented the second thought provoking talk titled "Will AI end jobs, wars or humanity?" On the last day of the conference was a talk by Daniel Lee of the University of Pennsylvania, USA which discussed several computational challenges for perception, control, and decision making in Autonomous Systems. His talk was titled "Decision Making in Intelligent Autonomous Systems".

The topics covered in the sessions were equally broad: From cognition to constraints, machine learning to natural language processing, automated reasoning, intelligent agents and robots to preference modeling and others. A striking trend was the dominance of neural network approaches in the machine learning work. Much of this work targeted deep learning.

Social events during the conference were well organized with the conference dinner being held at the famous West Berlin lake Schlachtensee. On the last day of the conference attendees were invited to go explore some of the installations for the festival of lights in the city center of Berlin. On a general note, the conference was held at a convenient location which made participation in the conference enjoyable. The sessions were also very relaxed which promoted discussions about the content presented during the sessions.

GCAI is a young conference and according to this year's organizers is set grow its scope and participation further by including other presentation formats such as workshops or symposia. GCAI 2016 had an approximately 50% acceptance rate and featured 27 publications (available via open access at http://www.easychair.org/publications/volume/GCAI_2016). GCAI 2017 is set to take place in Miami although the official announcement is yet to be made.