



Artificial Intelligence and Augmented Intelligence for Automated Investigations for Scientific Discovery

Semantics 2018
10/09/2018 - 13/09/2018
Semantic Web Company,
Vienna University of Technology

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AI3SD Network+

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Semantics 2018

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Network: Artificial Intelligence and Augmented Intelligence for Automated Investigations for Scientific Discovery

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1 Workshop Details

Title	Semantics 2018	
Organisers	Semantic Web Company & Vienna University of Technology	
Dates	10 th - 13 th September 2018	
Programme	Programme	
No. Participants	351 Participants	
Location	Vienna, Austria	
Organisation / Local Chairs	Thomas Thurner, Semantic Web Company Niina Novak, Vienna University of Technology	
Committee	Full Committee List	
Sponsors	Premium:	Mark Logic, poolparty
	Gold:	Ontotext, Semodesk
	Silver:	Datalan, Siemens
	Bronze:	CID, FH Burgenland University of Applied Sciences, SEMAKU, STI - Innsbruck
	Organiser:	Semantic Web Company, St Pölten University of Applied Sciences, Institute for Applied Informatics (InfAI) at University of Leipzig, Information & Software Engineering Group at Vienna University of Technology, University of Amsterdam

2 Conference Summary and Format

Semantics is a conference that focuses on Semantics and AI across both academia and industry and has the tagline of “Where Machine Learning Meets Semantics” . It is a unique conference in that it looks for research and innovation in both semantics and artificial intelligence, and also using the two in harmony together, and also has both a strong industrial and academic representation. It is run annually and typically has a main conference section and additional time reserved for workshops and meetings, although these formats differ slightly from year to year.

Semantics 2018 was a four-day conference, with the first two days for meetings and workshops, and the second two for the main conference. The first day was “DBpedia Day” which was used to host the annual DBpedia community meeting. The second day was for the workshops, which along with DBpedia Day were hosted at Vienna University of Technology. The 7 workshops all ran parallel to one another across the day so it was possible to attend different parts of different workshops.

The last two days were the main conference, which took place at the Hilton Waterfront Danube Hotel. The main conference consisted of 4 keynote talks, (which took place in slots where nothing else ran alongside them so it was possible to attend all of them), and 74 other talks spread across the two days, separated out into 20 different categories (see Section 5). There was a main breakout area where conference attendees could network and get refreshments, with a line of posters between the different conference rooms, which stayed up for the duration of

the event. There was also specifically allocated time to view and discuss the posters with their authors. Alongside the conference activities there were also two social events and plenty of time for networking and discussions outside of presentations. After the workshops there was a meet-up hosted at Vienna University of Technology comprised of short presentations and time for networking, and there was also a conference dinner on the first night of the main conference.

3 Conference Background

This conference was first organized and run in 2005 by the Semantic Web School (now known as the Semantic Web Company). It became I-Semantics for 7 years from 2007 to 2013 when it co-located with I-Media and I-Know. This conference has now been run 14 times and has become well established within the semantic community. It is designed to bring both industry vendors and academics together to present new developments in Semantic Web technologies, and to discuss and establish best practices. The Semantic Web Company continues to organize this conference alongside local partners (this year, Vienna's Technical University).

4 Workshops

There were 7 different workshops on a number of different themes, ranging from ontology based training, semantics for a specific domain, and some with more of a business focus towards developing and facilitating new digital and software based products. The workshops were organized in different ways, from “hands on” tutorials, discussion-based activities, and presentations depending on the workshop format.

- Governing Value: The Practice of Exploiting Data Value – a workshop to discuss challenges and approaches towards using data for innovation purposes or to increase competitive advantage.
- OLGA an Ontology SDK - a workshop to provide training in using OLGA, software that aids in developing IoT ontologies.
- Methods and Tools for Developing Ontology-based Data Management Solutions – a tutorial to demonstrate methodologies for developing ontology-based data management solutions.
- SemFAEN – Semantics for Future Food, Agriculture, Environment and Nutrition – A talk based workshop to disseminate different areas of research and industrial offerings regarding semantics in food, agriculture, environment and nutrition.
- The Fast Track to Knowledge Engineering – a workshop from the Semantic Web Company to kickstart Semantic Web and Knowledge Engineering training and give participants an opportunity to receive a free certification in their training.
- Successful Software Product Management & SlideWiki: Revolutionising, authoring, sharing and re-using of OER and OCW online – A presentation based workshop using SlideWiki as an example to illustrate how to successfully manage and deliver software products.
- The bigger picture of Digital Change – Going to bed as an industry, waking up as a software company – a workshop with panel discussions from experts in technology and business in a range of different domains to facilitate discussions about communication between the different sectors to ensure optimal digital transformation.

5 Talks, Topics & Posters

There were four keynotes at Semantics 2018. These were thought provoking talks that looked at how we can move forward to adopting both semantic web and artificial intelligence technologies, and also gave a unique insight into the history of the web and data; both to show how far we've come, but also what learnings we should remember from the past.

- Alan Morrison – Collapsing the IT Stack and Clearing a path for AI Adoption ([Video Link](#))
- Ivo Willems – Our journey into Semantics; how to contextualize the meaning of Semantics for your organization ([Video Link](#))
- Daniel Rosenberg – A quantitative history of data
- Elena Simperl – One does not simply croudsource the Semantic Web: 10 years with people, URIs, graphs and incentives ([Video Link](#))

This conference also boasted 74 talks across 20 different categories (listed below). These ranged from presenting new frameworks, ontologies, neural network models, web applications to considering the societal and technical aspects of futuristic developments.

- Annotation & Labelling (2 talks)
- Data Quality & Information Behaviour (2 talks)
- Data Science (6 talks)
- Digital Marketing & Analytics (2 talks)
- Government & Public Services (2 talks)
- Harvesting and enriching legacy data (2 talks)
- Knowledge Graphs & Ontology Management (4 talks)
- Knowledge Organisation (2 talks)
- Linking & Mapping (3 talks)
- Linked Open Data & Data Markets (2 talks)
- Linked Data Management & Data Quality (8 talks)
- Querying (2 talks)
- Semantic AI (6 talks)
- Solutions for Manufacturing (7 talks)
- Solutions for Media & Publisher (3 talks)
- Solutions for NGOs & Cultural Heritage (7 talks)
- Solutions for Public Sphere (3 talks)
- Sponsored Talks (2 talks)
- Technology Spotlights (3 talks)

- The Road Ahead – LegalTech (6 talks)

There were 4 different poster categories (listed below) and these posters were showcased throughout the conference, with some dedicated time to discuss them with their creators.

- Catalogues
- Geo Services
- Process Improvement
- Integration

There was also **Vocarnival** - The Vocabulary Carnival where vocabulary publishers are invited to showcase their new vocabularies.

6 Meetup

The **meetup** was hosted at Vienna's University of Technology with the theme of Semantics and AI. The event was started off with a presentation about neural networks and a demo of the Semantic Web Company's own Event Organiser system that was used for this conference. This system is a semantic matchmaking tool, that tries to match conference participants with the most appropriate talks and other attendees for their interests. This demo was followed by a forum of short presentations by different researchers on different technologies, with opportunities to network afterwards.

7 Participant Directory

There were 351 participants at Semantics 2018. The participants directory from 2014-2017 can be found [here](#). This report will be updated when the participants directory is updated.

8 Conclusions

Semantics is a unique conference in this community in that it is tied to industry. This year it had the strongest industry presence so far for Semantics with 51 Industry presentations. With over 351 participants attending this conference, clearly more industry vendors are investing in Semantic and AI research and the community is growing across both industry and academia. Furthermore, more and more people seem to be using these technologies together, combining the rich data elements of linked data and the intelligence of AI to create more innovative intelligent systems.

Semantics 2019 will be held on the 9th - 12th September 2019 in Karlsruhe, Germany.

9 Related Events

For those who are interested in getting involved with the semantic web community and attending related events there are some additional events that cover similar areas of interest.

ESWC – Extended Semantic Web Conference in Portorož, Slovenia (2nd-6th June 2019)

ISWC – International Semantic Web Conference in Auckland, New Zealand (26th-30th October 2019)

Both of these conferences are for presenting semantic web based research, innovative technology and applications.