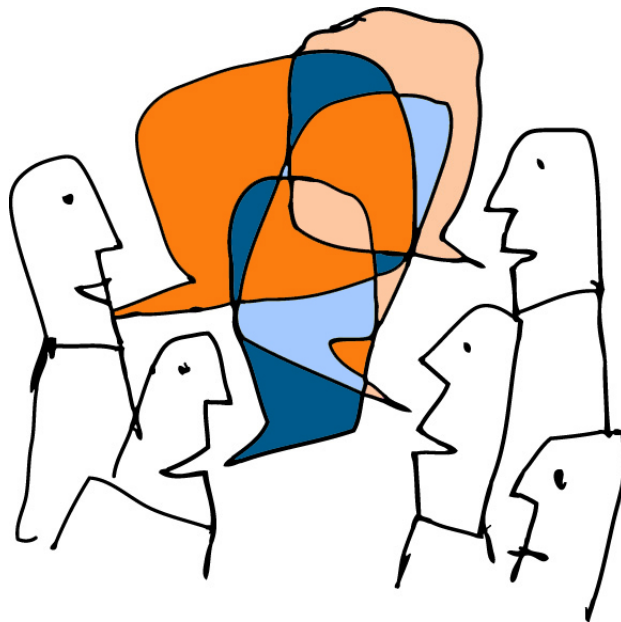


Benelux A.I. Newsletter

What's hot in... Argumentation?



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AIABN

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Interview with... Jaap van den Herik

by ALI MIRSOLEIMANI

Profile. Professor Hendrik Jacob (Jaap) van den Herik (Rotterdam, 8 oktober 1947) is a Dutch computer scientist, and a professor at the University of Tilburg. Van den Heriks research interests lie in the fields of agents, computer networks, computer systems, computer science, knowledge management, artificial intelligence, and game theory. He the original founder of the BNVKI.

What is your academic background and how were you drawn to the questions you are dealing with now?

I am a trained mathematician. My main topic was partial differential equations, to be precise “the spectra of differential operators.” Together with my friend Peter Nathans (who passed away in 2015) we built computer programs to triangulate the matrix representation of the differential operator. We started with the theory by Henri Weil (1920s). We arrived at good results and completed the study with honours (cum laude).

My career had the following course: mathematics → applied mathematics → numerical analysis → computer science → artificial intelligence → computer chess (as specialty) → game theory → computers and law → knowledge engineering → e-humanities → data science. In 2010 Jos Vermaseren (Nikhef) approached me for cooperation. He proposed to apply game-playing techniques to modernize the FORM programs that were used in particle physics. We started to cooperate and I invited Aske Plaat – who held at that time a special chair in Tilburg – to have also a look into the intricacies. Aske is an expert in MTD(f). Our ERC Advanced Research grant proposal shifted to Monte Carlo Tree Search (MCTS), was awarded (12-12-12) and is now our main Flagship.

Still I am dealing also with many other questions ranging from transfer learning to investigating cybercrime (Faculty of Law, Jan Jaap Oerlemans, also connections with EUR). On the top of these, the most challenging question of this moment is: How to bring the Leiden Centre of Data Science (LCDS) to the top and to worldwide recognition? It is a continuous building process, step by step. The result will be fascinating.

During your career you had positions at many different universities. What is it like being in so many different environments? How did that affect you as a researcher and as a person?

Many questions in one. The short answer is: it is fantastic to be in so many different environments. It is



Jaap van den Herik

a very good process to grow to a full-fledged researcher, and it is also good for the development of your personality. My doctoral supervisor was Professor Gerke Nieuwland (VUA). He said to Peter Nathans and me: “You are doing very good work. I have money to keep you for ten more months, but you cannot stay here. You should do as I did: Ingenieur in Delft, Doctor in Groningen, Professor in Amsterdam.” That advice is one of the best advice I have received in life.

Can you tell us a little more about your decision to move to Leiden University? Is it related to the Leiden Centre of Data Science?

To start with the last question, yes it is. In Tilburg I had developed (again with Aske Plaat and others) the TBDL-plan. TBDL stands for Tilburg Big Data Laboratory. Researchers and Deans supported that plan. I was the first in the Netherlands. Since Tilburg has only presence in the Computer Science world in a limited way, I looked for cooperation with Eindhoven. There, my plans were well received. Meanwhile I continued to convince Tilburg (University authorities, Municipality and Police officers) that this is the most promising future research. Tilburg was hesitating: a new big development, we are so small. “Readers, here you can learn from me”: hesitation is a curse for challenging and advanced research. Tilburg passed, Eindhoven took the lead (with due recognition to my initial efforts, thank you, gentlemen) and Jaap moved to Leiden where Professor Joost Kok has invited him to implement his plans. I hasten to add that Kok’s invitation was supported by Geert de Snoo (Dean of the Science Faculty) and Carel Stolker (rector Magnificus).

Can you tell us a little more about HEPgame?

HEPgame stands for High Energy Physics Game. In my BIGGRID period I collaborated with Frank Linde, the director of Nikhef. He was a visionary leader. Nikhef should be present in the European competitions at the highest level. He pushed selected researchers to apply for ERC grants. He endowed the researchers with support in the form of writing and meetings. In the 1960s Tiny Veltman and Gerard ’t Hooft had developed SCHOONSCHIP, a computer program to handle physic equations and expressions. This idea was awarded with a Noble prize (1999). In the 1980s Jos Vermaseren understood that the time was ripe to introduce new computer programming techniques for building a new program that could better handle the mathematical expressions. He completed the job in 1989. Not surprisingly, twenty years later, FORM was old-fashioned. Around 2010 it was time for the next step: AI techniques; how to find the proper formulae to handle a large (very large) set of equations; how to combine the terms in such a way that the equations are tractable. With the results of the Higgs investigations progressing, new techniques were absolutely necessary. It was a fascinating time, HEPgame was a fascinating proposal, and now it is challenging research at the frontiers of the computer possibilities. I believe for you (Ali Mirsoleimani) and Ben Ruijl Leiden is a better place for this front-ranked research. It may have influenced my transfer to Leiden, too.

“Readers, here you can learn from me”: hesitation is a curse for challenging and advanced research.

Jaap van den Herik

How did you get involved in the BNVKI and the BNAIC?

Around 1980 there were two centres of AI research. In Amsterdam we saw Bob Wielinga and Joost Breuker (emphasizing knowledge Representation and Knowledge Formulation) and in Delft Jaap van den Herik was involved in Search (as used in computer chess). In 1981, it was decided to have a meeting in Amsterdam of all current active researchers (we were with 16 at that time). There we decided to start the NVKI (Ned-

erlandse Vereniging voor Kunstmatige Intelligentie). The most active person in that time was Dennis de Champeaux de Laboulaye. Other active persons next to the ones mentioned already were Patrick Hudson and Henk Koppelaar. We chose for a board. However, that Board only formalized the Statutes and then fell into a Deep Winter Sleep. In that time I had to complete my Ph.D. thesis (defence in 1983), so I was purposely not organizational active. In 1987, the NVKI was awoken from its winter sleep by Laurent Siklóssy. He started a new board. Of course, Professor Laurent Siklóssy (VUA) became the new chairman. Erik Esmeijer became secretary, Koos Mars treasurer, and Jaap Editor-of-the-Newsletter and Vice-president. Moreover, we had in the team Joost Breuker and Maarten van Someren. In 1988, SWI organized the first NAIC conference. The organizers were Maarten van Someren en Guus Schreiber. In fact, that activity was crucial for the further development of the NVKI. In 1990, I succeeded Siklóssy as chairperson. Under my guidance, the NVKI made two plans: (1) encourage ladies to become board member, and (2) submit a proposal for the ECAI (European Conference on Artificial Intelligence) to be held in Amsterdam in 1994. Both plans came true. In 1991 Sandra Korthals-Stemerink became the “first lady” in our board and in 1994 we had the ECAI in Amsterdam. It was a wonderful time. There is much more, but I leave it with this, apart from the fact that I am grateful to our community at the time that they awarded me with the distinguished title: honorary member. Thank you, once more.

In which way were you involved in the Computer Olympiad in Leiden two months ago?

That is a long story. In 1982 the program PION (TU Delft) participated in the ACM computer chess championship and in 1983 in the World Computer Chess Championship (WCCC). So, the computer chess world knew the TU Delft as a centre of computer chess and AI activities. The ICCA (International Computer Chess Association; now ICGA (International Computer Games Association)) asked me to take over the Editorship of the ICCA Newsletter. The TU Delft allowed me to do so on the condition that I transferred the Newsletter to a recognized Journal, with scientific publications that were peer reviewed. After the WCCC, David Levy, Don Beal and myself started to develop competitions for other games. We did so and we launched the Computer Olympiad in 1989. In the last event in Leiden 2015, we had three events (1) the 21st WCCC, (2) the 18th Computer Olympiad, and (3) the 14th Advances in Computer Games Conference.

“ The machines that judge court cases and make verdicts will slowly enter the society. They will replace human activities step by step. The reason is also straightforward: machines will perform better in all details and in all areas. ”

Jaap van den Herik

The BNAIC conference has seen a decrease in participants in the last few years. Do you have any ideas on how to improve this?

First, we have to identify the causes of the decrease. There are outside causes, related to the disruptive development of hardware, software, and internet applications. Moreover, there are inside causes, related to the essential concepts of community building, saturation of the community, activities of the community, and guiding leadership. It is clear that all four last mentioned items deserve considerable improvement. There was a large BNVKI board, but the guiding power was inversely related to the number of Board members. In my opinion they did not have a proper labor division. A good portal, enthusiastic keynote speakers (Pollefeys in Nijmegen was good!), a regular (digital) newsletter, Ph.D. reviews, all were reduced to a bare minimum. A community is rewarded along the lines that their activities evoke. You can improve this rather easily by bringing back the right motivation and appointing a “driver” in the Board. The BNVKI

message on intelligent systems holds in this time even more than in previous periods.

What do you think of the future of AI in the Benelux in general? Do you think we have something to offer that sets us apart from the rest of the world?

The future is bright, you have to see it and you have to believe in it. We live in a fantastic time where intelligent programs play a key role. The research fields are broadened. Rules became heuristics, we focused on case-based reasoning, now it is data science, machine learning and deep learning. The next steps are adaptivity, autonomy, reciprocity, and co-creation of new techniques (i.e., man/woman helping machines). The BNVKI definitively has something to offer to the world. I spoke about the Netherlands. Now I look to Belgium. My prediction/advice is the successor of Luc Steels will do the job.

You once received some publicity because you mentioned that computers will replace judges in the future. Do you still believe this? If so, how do you think this would work?

This question is easy to answer. Yes, I am still convinced that it will happen. To be more precise, it will happen in this century. Your question how this will work is also easy. The machines that judge court cases and make verdicts will slowly enter the society. They will replace human activities step by step. The reason is also straightforward: machines will perform better in all details and in all areas. This slow entering will give us the opportunity to accept the change of life as normal, as to adapt on our lifestyle to the new world of cohabitation with intelligent computers.

What's Hot in... Argumentation?

by BART VERHEIJ (B.VERHEIJ@AI.RUG.NL), UNIVERSITY OF GRONINGEN, INSTITUTE OF ARTIFICIAL INTELLIGENCE AND COGNITIVE ENGINEERING (ALICE)

Artificial Intelligence is currently in the center of attention, by high-profile applications in autonomous driving, big data analytics, and expert-level game play. These appealing examples of AI inspire dreams about the coming age of humanoid robots, and simultaneously lead to concerns about autonomous warfare, the demise of privacy, and human-robot competition in the labour market. How can these dreams be realized and concerns be countered? I predict that the development of argumentation technology will prove crucial.

Argumentation is an everyday phenomenon: we argue with our friends which restaurant to go to; politicians argue how to organize society; and parties in court argue what has happened in a criminal case. Whenever there are different options to consider—more often than not—, the lessons of argumentation theory help to find a balanced reasonable choice. Going back to antiquity when Aristotle discussed argumentation as critical dialogue, argumentation theory is among the oldest fields of scholarly study. Today argumentation is the topic of the hottest AI technology. For instance, IBM's Watson has been adapted to mine the internet for arguments for and against socially relevant topics. Here is an excerpt of what can be done using argument mining techniques:

You have selected the topic 'The sale of violent video games to minors should be banned'. I would like to raise the following points in support of the topic: Exposure to violent video games results in increased physiological arousal, aggression-related thoughts and feelings, as well as decreased pro-social behavior. In addition, these violent games or lyrics actually cause adolescents to commit acts of real-life aggression. [...] On the other hand, I would like to note the following claims that oppose the topic: Violence in video games is not causally linked with aggressive tendencies. In addition, most children who play violent games do not have problems. [...] Would you like to discuss another topic? (*Transcript IBM demo*)

The study of argumentation in artificial intelligence is rooted in the study of defeasible reasoning (in the law and elsewhere), multi-agent systems, and natural language processing. A key reason for the fertility of the study of argumentation in artificial intelligence is that it can and has been studied using a diversity of techniques. Formal techniques have been applied for the development of logical models of argumentation, building on logic programming and non-monotonic logic (cf. the theoretical systems corner of the triangle in Figure 1). Computational techniques are used to design smart support tools and manage the complexity of the required algorithms (the artificial systems corner). Empirical techniques are used to ground models in data, and assess methods in case studies of real argumentation (the natural systems corner). Much progress is achieved by the cross-fertilization and gradual integration of lessons learnt in each of the perspectives (the spiral in Figure 1).

There is an active and growing community of artificial intelligence researchers studying argumentation, with key publications published in the *Artificial Intelligence* journal, a dedicated journal *Argument and Computation*, and a successful biennial conference series *Computational Models of Argument (COMMA)*.¹

What to expect in the next decade? Three developments have already started. First, we can expect a standardization of argumentation models, explaining ever better how argumentation is closely connected to logic and probability theory (Verheij 2014a, 2014b). Second, we can expect professional applications of

¹<http://www.comma-conf.org/>

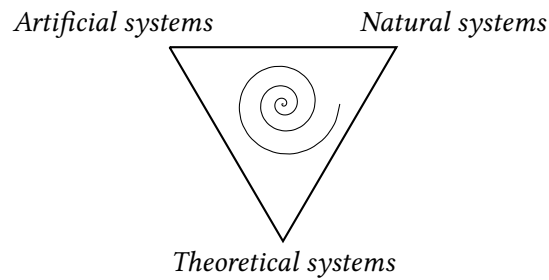


Figure 1: Perspectives on argumentation research

argumentation technology, for instance in argument assistants, online conflict resolution tools, and interpretation of evidence and data (Verheij et al 2015). Third, we can expect a deepened connection between non-formal and formal approaches to argumentation, with the border between the two sides becoming ever more unclear (Van Eemeren et al 2014).

By these developments, artificial intelligence techniques will improve the understanding of argumentation, but more interestingly, the study of argumentation will drive innovation in artificial intelligence. Once robots can argue about the balanced reasonable choices that we know are needed for human-level skills, they become much less dangerous—not more than the rest of us.

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Paper Discussion: Predicting Personality from Facebook Likes

by MARC VAN ZEE

Background

The paper I discuss is called “Private traits and attributes are predictable from digital records of human behavior” and is written by Kosinski, Michal, Stillwell, and Graepel for the National Academy of Sciences (Kosinski et al., 2013). I highly recommend it, I think it is what is generally considered to be “pop science”; very easy to read and short. The first author of the paper, Michal Kosinski, calls himself a “computational psychologist”. This means that he studies human behavior (psychologist) from computer data (computational). The paper presents a new way of developing psychological profiles of humans using digital footprints, namely using Facebook Likes.

Traditionally, psychological profiles of humans are created using surveys or questionnaires, but there are situations when these do not work well. There is always the risk of bias by the interviewer, or a change of mental state by the interviewee, knowing that he is being interviewed. The same thing can be said about psychological tests. These are for instance used when someone applies for a job. When applying for a job, applicants are more likely to state that they are hard working. When filling out personality characteristics on a dating website, participants are more likely to state that they are spontaneous. Besides that, human beings generally have a huge capacity for misrepresentation. Someone can call himself extrovert, merely because he or she wants to be extrovert.

The question that the paper tries to answer is roughly the following: Can we create psychological profiles from humans, simply by analyzing their Facebook liking behavior? Although the focus is on Facebook, this can equivalently be done using web browsing data, or credit card purchasing information.

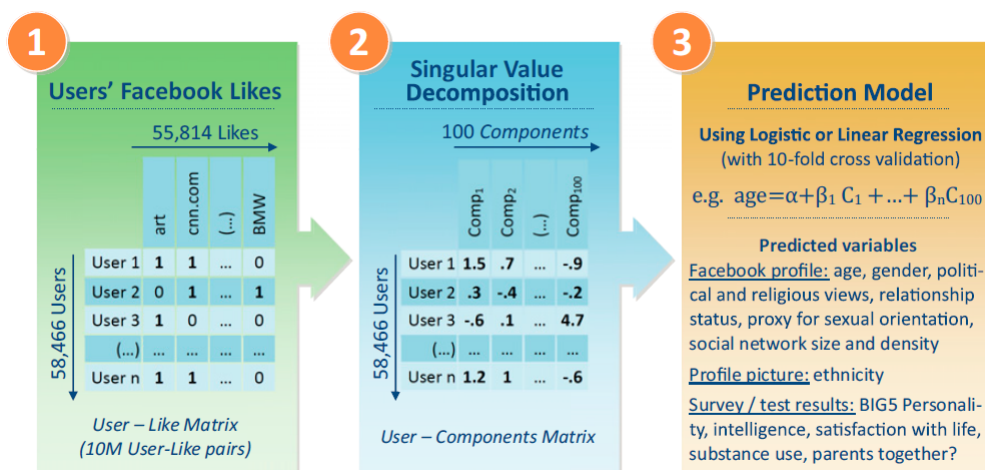


Figure 2: Main techniques used in the paper

Experimental Setup

The authors conducted an experiment among around 65.000 participants, and recorded around 50.000 likes. They then used a matrix representation of the data, and reduced the data using single value decomposition of 100 components. Next, they trained a prediction model using linear regression. Figure 2 shows the process graphically. They select traits and attributes that show how accurate and intrusive such a predictive analysis can be, including “sexual orientation,” “ethnic origin,” “political views,” “religion,” “personality,” “intelligence,” “satisfaction with life” (SWL), and others. The authors also require the participants to fill in a survey with which they can determine their psychological characteristics. In psychology, the Big Five personality traits are five broad domains or dimensions of personality that are used to describe human personality (Costa and McCrae, 1992). The five factors are openness, conscientiousness, extraversion, agreeableness, and neuroticism. To test the model they created using the Facebook likes, this trained data is matched with the outcomes of the survey. Kosinski and his colleagues compared the model generated from the Facebook likes for each participant with these five personality traits. Other characteristics were determined from the Facebook profile directly. If you are curious, you can obtain a psychological profile from your Facebook profile directly on this website: <http://www.applymagicsauce.com>.

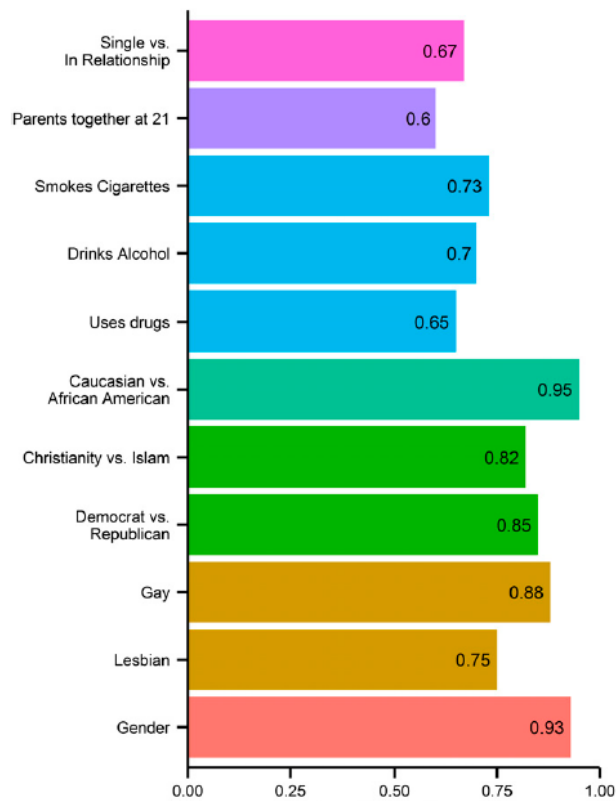


Figure 3: Model prediction rates

Results

The table in Figure 3 shows the prediction accuracy of variables in terms of the probability of correctly classifying two randomly selected users one from each class (e.g., male and female). For instance, participants are classified correctly as African Americans or Caucasian Americans in 95% of the cases. The accuracy of the model is lowest (60%) when inferring whether users' parents stayed together or separated before users are 21 years old. Still, it is remarkable that this is detectable their Facebook likes. Individuals with parents who separated have a higher probability of liking statements preoccupied with relationships, such as "If I'm with you then I'm with you I don't want anybody else".

The results rely on individuals for which between one and 700 likes were available. It is interesting that some characteristics were detectable even though they are usually not part of Facebook content. Consider for instance the characteristic "uses drugs". There is hardly any explicit information related to drug use available on Facebook. Still, the model can predict this correctly in 65% of the time.

The authors test numerical variables as well (i.e., a numerical value between 0 and 1 determining for instance how satisfied an individual is with life). I do not discuss them here.

Conclusion

The paper shows that simple statistical techniques on something as basic as Facebook likes can already lead to models that predict our psychological profile reasonably well. This indicates that there is huge potential in extracting personal information from digital traits. Now, it may well be the case that you have the feeling that this doesn't apply to your Facebook profile. You may be convinced that your "liking behavior" is not representative for your personality. However, the experiment has been performed on 65.000 individuals who all believed they did the same. You are more predictable than you think you are! Your future employer may not ask you to fill in a questionnaire and do personality tests anymore, but they simply scan your Facebook profile and have a good estimate of what kind of person you are. Doesn't this sounds great? I'm personally not sure, and I am quite happy I do not have Facebook myself.

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Event Reports

Report on BNAIC 2015 – Hasselt

by KOEN VANHOOF

On November 5-6, 2015, the 27th Benelux Conference on Artificial Intelligence (BNAIC'15) was held in Hasselt, Belgium, in a renovated old prison currently used by the Faculty of Law. Members from the Business Informatics research group at UHasselt were responsible for this conference. As usual, BNAIC'15 was organized under the auspices of the Benelux Association for Artificial Intelligence (AIABN-BNVKI) and the Dutch Research School for Information and Knowledge Systems (SIKS). The conference was a lively mixture of 15 oral presentation sessions in three parallel tracks, a poster and demo session, plus two invited speakers. On Thursday Dr. Elpiniki Papageorgiou started the conference with a keynote titled "Fuzzy Cognitive Maps: Methods and Applications". Dr. Elpiniki Papageorgiou is an Assistant Professor in the Department of Computer Engineering at Technological Educational Institute, University of Applied Sciences of Central Greece, Lamia, Hellas. She has been working in the area of computational intelligence for over fourteen years conducting research mainly in fuzzy cognitive maps. More explicitly, she has been working as researcher in several research projects related with the development of novel computational intelligence methodologies for decision support systems, intelligent algorithms for decision making, data analysis and mining, knowledge-based systems and expert systems. In the keynote she highlighted the core methodology of fuzzy cognitive map modeling and inference, their dynamic characteristics and learning capabilities, some promising extensions and their evolutionary structures capable to solve complex modeling and decision making problems. Selected innovative applications of them to diverse research domains during the last years were presented to show their usefulness in modeling complex problems. Next the first six oral presentation sessions, the demo session and the poster session were responsible for a heavily loaded day. The demo sessions were really impressive. Coffee breaks and a small but delightful lunch were offered and appreciated. The first day was concluded by a guided city walk in Hasselt, the city of taste, and by a conference dinner in "t Klein Genoegen" and for some by a strong Belgian beer. Participants confirmed the 'City of Taste' label. On the second day of the conference, the second invited speaker opened the program. Dr. Stephan Onggo is a lecturer (Assistant Professor) in the Department of Management Science at Lancaster University Management School (LUMS), Lancaster, United Kingdom. His research interests are in the areas of simulation methodology (Conceptual Modelling, Modelling Paradigms including discrete-event, system dynamics, and agent-based), simulation technology (Parallel/Distributed Simulation and cloud-based Simulation), simulation applications (healthcare, public sector, supply-chain), and business process modelling (BPMN). In his keynote he introduced Agent-based simulation (ABS) and its widely use in social sciences and operational research. ABS was born from the field of Artificial Intelligence (AI), especially in the subfields of multi-agent systems, artificial life and distributed AI. Dr. Onggo presented the use of ABS to represent intelligent behaviors in a society, he identified AI components in ABS research and highlighted potential collaborative works between ABS communities and AI communities.

After the coffee break, the conference participants attended nine oral presentation sessions. The presentations were in general of high quality. The annual BNVKI meeting was also held. The conference was concluded by short award closing session. Koen Vanhoof presented the award for the best paper to Vincent Nys, Jon Sneyers en Daniel De Schreye for their paper Automatic music teaching : a logic-probabilistic étude generator. After that, Jaap van den Herik awarded the SKBS best demo award to Wiebe Van Ranst and Joost Vennekens for their demo Ultra-low-latency endoscopic image stabilization. Finally, participants thanked the organizers and the location of BNAIC 2017, which will be held in Amsterdam co-organized

by both universities of Amsterdam, was announced. We wish to thank all the researchers, the participants, the keynote speakers, the Program Committee and additional reviewers for their careful paper reviews; the BNVKI board for their advice; and the student volunteers for their invaluable help in making this conference come true

VU/SIKS Symposium on Behavioural Informatics

by TIBOR BOSSE

On February 29th, the Computer Science Department of the Vrije Universiteit Amsterdam hosted a symposium on Behavioural Informatics. The research area of Behavioural Informatics studies the design, implementation, and evaluation of intelligent computational systems that analyze, simulate and influence human behaviour. The symposium was centered around two events, namely 1) the name change of the Agent Systems Research group at the VU to Behavioural Informatics group, and 2) the PhD Ceremony of Jeroen de Man. The event was sponsored by SIKS and BNVKI.

The event was opened by Frank van Harmelen, who officially launched the new name of the Behavioural Informatics group. After that, the first session started, which was chaired by Michel Klein. This session addressed the topic of 'Intelligent Systems for Health Care Support', and included presentations by Mark Neerincx (TU Delft & TNO), Annerieke Heuvelink-Marck (Philips), Iskander Smit (Behavior Design Amsterdam), Ben Kröse (UvA & HvA), and Willem-Paul Brinkman (TU Delft). The presentations demonstrated a variety of techniques and applications with the aim to assist patients in changing their behaviour and adopting a healthy lifestyle. These included social robots, virtual agents and haptic technology.

After a lunch break, the second session started, chaired by Tibor Bosse. This session focused on the topic of 'Simulation-Based Training with Virtual Humans', and included presentations by Jonathan Gratch (USC-ICT), Karel van den Bosch (TNO), and Dirk Heylen (U Twente). These presentations discussed the challenges involved in designing intelligent virtual agents that interact with humans in simulated environments. The emphasis was on training applications, and the speakers introduced such applications for the domains of negotiation, military training, and social skills training.

The event was concluded with the PhD Defence of Jeroen de Man, who successfully defended his thesis, entitled 'Measuring and modeling negative emotions for virtual training'. In total, approximately 40 people attended the symposium. All in all, it was a very successful event, resulting in many lively discussions and the identification of new challenges and opportunities within the field of Behavioural Informatics.

Event Announcements

BNAIC 2016 (Amsterdam)

The 28th Benelux conference on Artificial Intelligence (BNAIC 2016) will be jointly organized by the University of Amsterdam and the Vrije Universiteit Amsterdam, under the auspices of BNVKI and SIKS. BNAIC 2016 will be held in Hotel Casa 400, Amsterdam, The Netherlands, on Thursday 10 and Friday 11 November, 2016. BNAIC 2016 will include invited speakers, research presentations, posters and demonstrations. Authors are invited to submit papers on all aspects of Artificial Intelligence. For more information, see <http://www.bnaic2016.org/>.

ECAI 2016 (The Hague)

As you probably already know, the European Conference on Artificial Intelligence 2016 will take place in The Hague from 29 August to 2 September. The organisation of ECAI2016 is supported by BNVKI and we aim at making it an event from and for all of us, AI researchers in Belgium, Luxembourg and the Netherlands. Together, we will make it an unforgettable event!!

There are plenty of possibilities to participate. Firstly, and most importantly, by submitting your research papers to the main track, or industry collaboration papers to PAIS! But you can also propose a workshop or tutorial, or, for students, participate in STAIRS! And, we also welcome all volunteers to help with the many tasks involved in organising such a large event. Send an email to contact@ecai2016.org if you want to help with the organisation.

New in 2016, is the AIckathon, a hackthon for development of AI related apps in collaboration with Dutch and international companies. More information on this will come soon! We are also organising a special track and a public event on “Artificial Intelligence for Human Values”, linking to the status of The Hague as Peace and Justice City. ECAI2016 is collocated with the Collective Intentionality Conference, and participants of both conferences will have free access to all sessions of each conference.

We are planning many more exciting activities! Follow us on Twitter or Facebook to receive all the latest news!



All information is also available at <http://www.ecai2016.org>

Frank van Harmelen
General Chair

Virginia Dignum and Frank Dignum
Organisation co-chairs

SIKS Course on Research methods and methodology for IKS

Introduction On November 23,24 and 25 2016, the School for Information and Knowledge Systems (SIKS) organizes the annual three-day course “Research methods and methodology for IKS”. The location will be Conference center Landgoed Huize Bergen in Vught. The course will be given in English and is part of the educational Program for SIKS-Ph.D. students. The course will be given in English and is part of the educational Program for SIKS-Ph.D. students. Although the course is primarily intended for SIKS-Ph.D. students, other participants are not excluded. However, their number of passes will be restricted and depends on the number of SIKS-Ph.D. students taking the course.

“Research methods and methodology for IKS” is relevant for all SIKS-Ph.D.-students (whether working in computer science or in information science), The primary goal of this hands-on course is to enable these Ph.D. students to make a good research design for their own research project. To this end, it provides an interactive training in various elements of research design, such as the conceptual design and the research planning. But the course also contains a general introduction to the philosophy of science (and particularly to the philosophy of mathematics, computer science and AI). And, it addresses such divergent topics as “the case-study method”, “elementary research methodology for the empirical sciences” and “empirical methods for computer science”.

“Research methods and methodology for IKS” is an intense and interactive course. First, all students enrolling for this course are asked to read some pre-course reading material, comprising some papers that address key problems in IKS-methodology. These papers will be sent to the participants immediately after registration. Secondly, all participants are expected to give a brief characterisation of their own research project/proposal, by answering a set questions, formulated by the course directors, and based on the aforementioned literature. We believe that this approach results in a more efficient and effective course; it will help you to prepare yourself for the course and this will increase the value that you will get from it.

Course coordinators Hans Weigand(UvT), Roel Wieringa(UT), John-Jules Meyer(UU), Hans Akkermans(VU) and Richard Starmans (UU)

Program The program is not available yet, but a previous edition may give an impression of the content.

Registration In the conference center there is a limited number of places and there is interest from other groups in the topic as well. Therefore, an early registration is required. For registration you are kindly requested to fill in the registration form .

Arrangement 1 includes single room, all meals, and course material.

Arrangement 2 includes only lunch, dinner and course material. So no stay in the hotel and no breakfast.

Deadline for registration for SIKS-Ph.D.-students: **01 November 2016**

After that date, applications to participate will be honoured in a first-come first-serve manner. Of course, applications to participate from other interested groups are welcome already. They will receive a notification whether they can participate as soon as possible.

Information for non-SIKS Ph.D.- students SIKS needs a confirmation from your supervisor/office that they agree with the arrangement and paying conditions.

SIKS tutorial on Mathematical Methods for IKS

Introduction From October 03-04 2016, the School for Information and Knowledge Systems (SIKS) organizes the course “Mathematical Methods for IKS”. The course will be given in English is part of the Tutorial Program for SIKS-PhD -students. Although the course is primarily intended for SIKS-PhD-students, other participants are not excluded. However, their number of passes will be restricted and depends on the number of SIKS-PhD -students taking the course.

Location Landgoed Huize Bergen , Vught

Date 03-04 October 2016

Scientific Directors Prof. dr. T. Heskes (RUN), Prof. dr. E.O. Postma (UvT)

Program The program is not available yet.

Registration In the conference center there is a limited number of places and there is interest from other groups in the topic as well. Therefore, an early registration is required.

Deadline for registration for SIKS-Ph.D.-students: **September 15 2016**

After that date, applications to participate will be honoured in a first-come first-serve manner. Of course, applications to participate from other interested groups are welcome already. They will receive a notification whether they can participate as soon as possible.

For registration you are kindly requested to fill in the registration form:
http://www.siks.nl/inschrijving_MM_2016.php.

Arrangement 1 includes single room, all meals, and course material.

Arrangement 2 includes two lunches, one dinner and course material. So no stay in the hotel and no breakfast.

SIKS Course on Data Science

Introduction From May 19-20 2016, the School for Information and Knowledge Systems (SIKS) organizes the tutorial “Data Science”. The course will be given in English and is part of the Tutorial Program for SIKS-PhD -students. Although these courses are primarily intended for SIKS-PhD-students, other participants are not excluded. However, their number of passes will be restricted and depends on the number of SIKS-PhD -students taking the course.

Data Science is “the study of the generalizable extraction of knowledge from data” (source: Wikipedia). In the IKS context the data is often (enterprise) business data, web log data or open data. The different topics are mostly introduced with this context in mind.

Location Landgoed Huize Bergen , Vught

Date 19-20 May 2016

Scientific Directors Prof.dr. P. De Bra (TU/e), Dr. H. Weigand (TiU)

Program The program is available here: <http://www.siks.nl/DS-2016-program.pdf>

Registration In the conference center there is a limited number of places and there is interest from other groups in the topic as well. Therefore, current applications to participate will be honoured in a first-come first-serve manner. Of course, applications to participate from other interested groups are welcome already. They will receive a notification whether they can participate as soon as possible.

For registration you are kindly requested to fill in the registration form:
http://www.siks.nl/inschrijving_DS-2016.php

Arrangement 1 includes single room, all meals, and course material.

Arrangement 2 includes two lunches, one dinner and course material. So no stay in the hotel and no breakfast.

Free Events for SIKS-PhD-students

The following events can be participated by SIKS-PhD-students for free:

- STAIRS at ECAI 2016 (26 Aug - 2 Sep, 2016); <http://www.ecai2016.org/calls/stairs-call-for-papers/>
- The 13 International Conference on Grammatical Inference (5-7 Oct, 2016); <http://icgi2016.tudelft.nl/>
- Benelearn (12/13 Sept, 2016); <https://www.kuleuven-kulak.be/benelearn/>
- Autumn School Big Software on the Run (23-28 Oct, 2016): <http://www.3tu-bsr.nl/doku.php?id=bsr-ws2016>

Summer School on Fuzzy Cognitive Maps

Methods, Learning Algorithms and Software Tool for Modeling and Decision Making

4-8 July 2015 (5 days)

Organized by Prof. Elpiniki Papageorgiou

Technological Educational Institute-University of Applied Sciences of Central Greece, Dept of Computer Engineering, Lamia, Greece

epapageorgiou@teiste.gr, <http://www.epapageorgiou.com>

Place: City of Volos, DOMOTEL XENIA VOLOS, Greece

Course Title: Fuzzy Cognitive Maps: Methods, Learning Algorithms and Software Tools. Applications on case studies

Course Leader: Prof. Elpiniki Papageorgiou, TEI of Central Greece, Lamia

Main Lecturers: Dr. Elpiniki Papageorgiou and Gonzalo Napoles

Structure: 32h course; 5 days; approximately 6h/day

This five-day Summer School deals with the principles, assumptions, models, learning algorithms, convergence issues, strengths, limitations, applications of Fuzzy Cognitive Maps (FCM) and new software tools for them. Fuzzy cognitive maps are fuzzy feedback dynamical systems for modeling causal knowledge. They were introduced by Bart Kosko in 1986 as an extension of cognitive maps. Cognitive maps are a set of nodes linked by directed and signed edges. The nodes represent concepts relevant to a given domain. The causal links between these concepts are represented by the edges which are oriented to show the direction of the influence and are signed to show a promoting or inhibitory effect. FCMs have emerged as tools for representing and studying the behavior of systems and people. By combining the main aspects of fuzzy logic, neural networks, expert systems, semantic networks, they have gained considerable research interest and are widely used to analyze causal complex systems. From an Artificial Intelligence perspective, FCMs are dynamic networks with learning capabilities, where in more and more data is available to model the problem, the system becomes better at adapting itself and reaching a solution. They gained momentum due to their dynamic characteristics and learning capabilities. These capabilities make them essential for modeling, analysis and decision making tasks as they improve the performance of these tasks. These capabilities make them essential for modeling and decision making tasks as they improve the performance of these tasks.

This summer school is dedicated to providing participants with deep insights on fundamentals, modeling methodologies, learning algorithms, optimization and convergence issues for fuzzy cognitive maps (FCMs), supplemented with hands on real case studies using the software tool of FCM Wizard. A diverse number of applications of FCMs in applied sciences and engineering will be investigated.

The FCM software tool, called FCM WIZARD, will be fully presented in practice and the computer experiments will be based on it. A free version of FCM WIZARD will be given to the participants for investigating their problems.

Workshop on Artificial Intelligence for Justice (AI4J)

To be held in conjunction with the 22nd European Conference on Artificial Intelligence (ECAI 2016)

August 30, 2016, The Hague, The Netherlands

<http://www.ai.rug.nl/verheij/AI4J/>

Scope Artificial intelligence is currently in the centre of attention of legal professionals. An abundance of startup companies explore the application of AI techniques in the domain of law, and there is even talk of artificially intelligent legal assistants disrupting the legal market space. Factors driving the increased attention for legal AI include:

- Technological breakthroughs in machine learning, natural language processing, ubiquitous computing, data science, and argumentation technology;
- The changing attitude towards technology in the legal domain;
- The much increased availability of legal data on the internet;
- The recent success of AI applications in the private and public domain;
- The success of technology supporting access to law, legal empowerment, and transparency;
- The increased need for norms embedded in technology (autonomous driving and warfare, big data analysis for crime fighting and counterterrorism).

The workshop is held as part of ECAI 2016 in The Hague, the residence of several international courts, such as the International Court of Justice, the Permanent Court of Arbitration, the International Court of Criminal Justice and the United Nations International Criminal Tribunal for the former Yugoslavia. The workshop's theme "AI for justice" connects to the ECAI 2016 special topic "AI for human values".

The aim of this workshop is to investigate opportunities and challenges in AI applied to the law, with a particular focus on the relevance of the recent technological breakthroughs for AI & Law research and for legal practice. Questions addressed include the following:

- How can AI & Law research contribute to improving legal work in, for example, courts, law firms, public administration, police practice and businesses?
- How should AI & Law research change in light of the recent research breakthroughs and technological developments? For example, how can traditional research on legal knowledge bases, legal reasoning and legal argument be combined with data science, machine learning and natural language processing?

The law has been a longstanding application field for AI research. The biennial International conferences on AI & Law (ICAAIL) started in 1987, the annual JURIX conferences on Legal Knowledge and information systems in 1988, and the journal Artificial Intelligence and Law was founded in 1992. Many ideas that are currently being commercially developed were first explored by AI & Law researchers, such as legal information retrieval, statistical analysis of legal data, automated contract drafting, automated processing of permit or welfare applications in public administration, and systems for regulatory compliance.

Topics of Interest Some particular topics of relevance to the focus of the workshop are:

- Open data, linked data, big data;
- e-Discovery;
- Legal argument mining;
- Automated contract drafting;
- Computable contracts;
- Decision support for legal, forensic and police practice;
- Computational law.

Submission and Publication Original research contributions and position papers are invited that address the above questions and topics or other issues relevant for the workshop. We encourage submissions that describe, evaluate or comment on working programs, apps or web sites. However, submissions of a more theoretical nature are also welcome. Papers should be of maximally 8 pages (position papers maximally 4 pages) and formatted in the ECAI submission format. Submissions can be uploaded via the EasyChair page of the conference: <https://easychair.org/conferences/?conf=ai4j>.

Accepted papers will be included in the workshop proceedings, which will be distributed electronically together with the ECAI conference proceedings. Moreover, authors of a selection of papers will be invited to submit an extended version of their paper to a special issue of the journal Artificial Intelligence and Law devoted to the workshop's theme. (The submissions to the special issue will be subject to another reviewing and selection process.)

Questions can be sent to Henry Prakken (h.prakken@uu.nl) or one of the other workshop chairs.

Important Dates Paper submission deadline: May 27, 2016

Reviewing period: May 30 - June 13, 2016

Discussion period: June 14 - 23, 2016

Notification of acceptance or rejection: June 24, 2016

BNVKI Membership Fees

In the table below you can find the BNVKI membership fees.

| | 2015 |
|-----------------|--------|
| Regular members | € 20,- |
| PhD students | € 10,- |
| Master students | € 10,- |

Table 1: BNVKI Registration Fees

Becoming a BNVKI member makes you automatically an ECCAI member and allows you register at a reduced registration rate for certain major events, such as ECAI and ACAI. By increasing the number of BNVKI members, our AI community can also nominate more colleagues to become ECCAI fellows, as the maximum number of fellows we are allowed to have is proportional to the number of members. Finally, it might be good to know that ECCAI has decided to sponsor international events through invited speakers and these invited speakers need to be an ECCAI member over the past years.

If you want to know where our members are currently located, check out <http://wilma.vub.ac.be/dvan-deun/mapje.html>, if your affiliation is not represented, or you would like to see a larger dot, become a member and convince you colleagues to join as well.

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Please visit <http://www.bnvki.nl>, section "BNVKI Board Members" for more detailed information.

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How to Subscribe?

The BNVKI-AIABN Newsletter is a direct benefit of membership of the BAI AI: Benelux Association for Artificial Intelligence. Membership dues are € 20 for regular members and € 10 for students (AIO's or master). In addition, members will receive access to the electronic version of the European journal AI Communications. The Newsletter appears quarterly. For more information, please visit our website and go to "Membership and Benefits".

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