



Aspen Institute | Germany

ASPEN ANNUAL BERLIN AI CONFERENCE

HUMANITY DISRUPTED: ARTIFICIAL INTELLIGENCE AND CHANGING SOCIETIES

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March 14-15, 2018

State Representation of Baden-Württemberg
Tiergartenstr. 15
10785 Berlin





*Kent Logsdon, Chargé d'Affaires a.i.
Embassy of the United States
in Berlin*



*Pedro Domingos, Professor for
Computer Science, University of
Washington*



*A member of the audience asks a
question during Pedro Domingos'
presentation*



*Nicola Beer, Member of the German
Bundestag, former Minister of
State, Secretary General of the FDP*

The first annual Berlin AI conference – Humanity Disrupted: Artificial Intelligence and Changing Societies – brought together more than 350 top policy-makers, entrepreneurs, computer scientists, academics and representatives from business as well as media at the Baden-Württemberg Representation in Berlin on March 14-15, 2018.

The conference was made possible by the generous support of the Heinz und Heide Dürr Stiftung, the Landesvertretung Baden-Württemberg, Daimler AG, Microsoft, the Friedrich Naumann Stiftung, Lockheed Martin, and Pfizer. We were also joined by media partners Berlin Policy Journal/Internationale Politik, Thomson Reuters, Deutschlandfunk Nova, Deutsche Welle and KCRW.

“A.I. innovation and deployment, like our democratic systems, benefit from stakeholder dialogue with broad participation from the private sector, academia, civil society and others.”

Kent Logsdon, Chargé d'affaires a.i., Embassy of the United States in Berlin

Starting off Clear-Eyed and Innovation-Driven

On March 14th, the Humanity Disrupted conference kicked off with welcome remarks from Volker Ratzmann, State Secretary and Head, Baden-Württemberg Representation and Kent Logsdon, Chargé d'Affaires a.i., Embassy of the United States of America in Berlin. Ratzmann noted that research in AI is a key component of Stuttgart's Cyber Valley cluster. He balanced possibilities for voice and image recognition, self-driving cars, diagnostics and Industry with potential risks. Logsdon emphasized the bottom-up nature of AI development and called on governments to maintain a light touch in shaping the AI regulatory environment. Perhaps the most important challenge for public policy leaders around the world is to resist the urge to try to control or centrally plan the development of future innovation, said Logsdon.

Pedro Domingos, Computer Science Professor at the University of Washington, provided a crash course on the development and research landscape of AI and deep learning today. He described how evolution, the theory of genetic algorithms and mathematical models of dendrites and synapses could be used to reverse engineer thinking and learning. The best example of neural network is the Google cat network which could recognize many objects – cats best of all – based on millions of online videos. Domingos used this to suggest that this could lead to a “unified model of you,” an artificial bundle of algorithms that mirrors your judgements and decision-making.

The AI Race is On

The first panel – entitled Reimagining Economies, Productivity and Innovation in the Early AI-Age – dealt with the transformative effects AI would have on jobs, prosperity and competitiveness. The discussion immediately focused on how German and Western societies can push AI development and deployment to remain competitive, particularly in the face of China's \$ 150 billion AI R&D investment, and its access to virtually unlimited data and state control. Panelists addressed the sense that there is an AI innovation race, with two European discussants, Nicola Beer and Anne Carblanc, emphasizing that Europe needed to change its risk-taking culture, encourage investment and collaborate at the European level.

Discussants recognized the ethical questions tied up with getting economic AI right. Panelists noted that AI law is still “at the creation” – essentially where online privacy law was in 1995 – and that principles decided now would guide legal framework development. They recognized that AI-driven automation has the potential to qualitatively alter the job market in OECD countries. Some, in particular Joanna Bryson, emphasized discussions about offsets would be necessary in terms of taxation, training, government assistance and reskilling. As Jeff Bullwinkel put it, “It is not so much what computers can do but rather what they should do.”

Panelists included Nicola Beer, Member of the German Bundestag, former Minister of State and Secretary General of the FDP; Joanna Bryson, Professor at the University of Bath and Princeton Center for Information Technology Policy; Jeff Bullwinkel, Associate General Counsel, Corporate, External and Legal Affairs, Microsoft Europe, and Anne Carblanc, Head of Digital Economy Policy Division, OECD. Andreas Gebhard, Founder and CEO, re:publica, moderated the discussion.

Automating the Correlation-Causation Fallacy?

Jean-François Gagné, founder and CEO of Element AI, took up the ethical challenge of the economics panel. He underscored the urgency of workable industry standards for narrow AI based on four principles: predictability, explicability, security and transparency. He dismissed the claims that AI was too complex or too underdeveloped for a serious regulatory debate now. For example, he pointed to the problem that association of facial features with criminality could lead to a sort of 21st century phrenology. The lack of core values and common sense now made industry standards more – not less – important.

Myth Busting and Rethinking German Autos

The conference’s second mainstage panel – Driving Innovation: Autonomous Vehicles and the Future of Rail and the Open Road – touched on mobility and transport, the foundation of the German economy. Magnus Graf Lambsdorff returned to the AI race theme pointing out that US and Chinese competition threatened to squeeze out German entrepreneurship. Panelists marveled at the specter of China’s AI investment strategy, creation of massive R&D and university programs and data access all directed by the Chinese government. Panelists again repeated general challenges in Germany with tech development – lack of VC, lack of risk taking culture and lack of state-driven innovation pushes like the U.S.’s DARPA.

Panelists also busted some common myths. For example, contrary to popular belief, labor in the transport sector is scarce. There are too many driving jobs currently unfilled that make worries about automation displacing driver jobs less immediate. Karl-Heinz Paqué and Graf Lambsdorff encouraged a more optimistic approach to AI in Germany. “Maybe we should change the theme from Humanity Disrupted to Humanity Enhanced,” said Graf Lambsdorff. The Deutsche Bahn’s Sabina Jeschke emphasized that AI will enable the democratization of mobility – more efficient trains will mean more service to remote, rural areas of Germany.

Discussants included Demetrio Aiello, Head of AI and Robotic Labs, Continental AG; Sabina Jeschke, Member of the Management Board for Digitalization and Technology, Deutsche Bahn AG; Magnus Graf Lambsdorff, Lakestar and Karl-Heinz Paqué, Vice Chair, Friedrich-Naumann-Stiftung. The session was moderated by Martin Klingst, Senior Fellow at the Aspen Institute Germany.

The Road to Common Sense

Dileep George, founder of Vicarious, focused on the vexing question of AI and common sense, a key gateway on the path to artificial general intelligence. He mapped out the process by which the brain creates perception explanations for images and how it allows humans to solve CAPTCHAs based on limited data input. Solving for this limited data input is the top channel for his Schema Networks. He said his dream would be to get AI to the level of learning sophistication of a 3-year-old. When asked by Fabian Westerheide, Managing Director at Asgard Human Venture Capital for Artificial Intelligence and the session’s moderator, whether or not such robots should have rights, George called back to the directive of service to humans and said that they should not be given rights, but he pushed back on the Elon Musk scenario that AI will destroy humanity because the key threshold would be common sense.



*Frank Kirchner, Research Director,
German Research Center for
Artificial Intelligence*



*A full audience closely follows the
panel on Germany and AI*



*Frank Sauer, Researcher,
Bundeswehr University Munich*



*Conference attendees continue the
debate over coffee*

New Fields, Old Stereotypes – A Franco-German Engine for AI

The exclusive speakers' dinner with Matthias Machnig, State Secretary within the German Federal Economic Ministry, and André Loeseckrug-Pietri, former Macron advisor and founder of the Joint European Disruptive Initiative (JEDI) intensely probed the potential of the Franco-German engine of European integration to play a similar role in tech innovation and AI. The lively conversation that was moderated by Rüdiger Lentz, Executive Director, Aspen Institute Germany, focused on other recent failed attempts to jumpstart European innovation including a never-launched Franco-German Fund for Start Ups. The sobering, clear eyed discussion recognized that the venture capital spirit of trying and failing must be allowed in Europe and that great, statist projects like CERN are possible but require more lift from governments. Both French and German participants expressed cautious hope that the new German government would answer Macron's call for more joint R&D in AI.

*"No natural law prevents machines from surpassing our intelligence."
Frank Kirchner, Research Director, German Research Center
for Artificial Intelligence*

AI and Robots

Frank Kirchner, Research Director of the German Research Center for Artificial Intelligence in Bremen, opened the second day with a 30-minute presentation demonstrating how machine learning could be connected to research in motor skills, engineering, transportation and manufacturing – the strengths of the German economy. On the policy side, Kirchner warned that the future of machine learning was completely data-dependent. Bad data leads to bad learning outcomes. "Garbage in, garbage out," he said. He also broached the issue that would be the running ethical theme of the day – that there was no natural law preventing machine intelligence from surpassing human intelligence. Finally, Kirchner emphasized that by giving more responsibility to machines that we could, counterintuitively, lose important skills that we as humans have. He pointed to the ability to know Global North as one example and contended that machine dependence could lead to the loss of other skills.

Is Merkel IV setting the Stage for Germany's AI Future?

In "Is Germany Ready for the AI Revolution? Rethinking First Principles and Reaching Society" panelists tackled the question of German politics in the face of AI. Panelists borrowed from Kirchner's presentation, noting that Germany had definitive strengths in engineering, precision and hardware. Feindt and others emphasized that Germany should not expend the energy to compete with B2C, user-interfaced platforms like Google and Facebook, saying bluntly that that war is lost. Rather it should focus on robots and B2B. Thomas Jarzombek argued that Germany had to break free from the technologies and production models of the past – in areas like auto and appliances - if it was to maintain its leadership. Other panelists discussed the role of tech education, partnership with France and risk taking as components of Europe's AI development.

Panelists in the session included Cécile Boutelet, Journalist, Le Monde; Michael Feindt, Founder & Chief Scientific Officer, Blue Yonder and Professor at Karlsruhe Institute of Technology; Thomas Jarzombek, Member of the German Bundestag, Spokesman of the CDU/CSU Parliamentary Group on Digital Affairs; and Lothar Schröder, Member of the Board, ver.di. Nina Ruge, Journalist and Author served as moderator.

Breaking out of the Killer Robot Narrative

Discussion around lethal autonomous weapons systems (LAWS) focused on future capabilities, what deployments could look like and potential constraints that should be placed on such systems. AI in weapons systems operates as an accelerant making processes and responses faster. The central challenge in keeping humans in the loop will be the speed of wholly automated processes. Sauer asked whether speed combined with loss of control could lead to “flash wars” just as there have been algorithmically driven “flash crashes.” One panelist emphasized that the precision in weaponry would lead to greater protection of civilian life.

On the international community front, Russia remains a difficult partner when it comes to creating international regimes to regulate autonomous weapons like the Group of Government Experts (GGE) in Geneva. Olaf Theiler from the Bundeswehr noted that German policy sets clear lines on where autonomous systems can play a role – retrieving and analyzing sensor data for example – and where they should not – in lethal offensive warfare for example. Walsh issued a call for Germany to go further, joining 23 other countries – and be the first in NATO – to demand a ban on AI weapons. Walsh contended the easiest way to keep AI weapons out of the hands of non-state actors was to not produce them at all.

The discussion also focused on attribution. It will become harder to identify attackers when AI is the agent. Others on the panel including Theiler also placed greater emphasis on AI-operations in cyberspace, metadata analysis and targeting rather than the lethal aspects.

The discussion included Marcel Dickow, Head of International Security Division, German Institute for International and Security Affairs, SWP; Frank Sauer, Researcher, Bundeswehr University Munich; Olaf Theiler, Chief of Branch, Future Analysis, Bundeswehr Office for Defense Planning; and Toby Walsh, Professor of Computer Science, University of New South Wales and was moderated by Andrea Shalal, Senior Correspondent, Thomson Reuter

*“There is no reason that anybody should risk life or limb to clear out a minefield. That is a perfect job for a robot.”
Toby Walsh, Professor of Computer Science, University of New South Wales*

Thinking about Humanism in the AI Age

Music from David Cope’s Emmie - an independent machine-learning algorithm which composes new pieces in the style of Bach, Mozart and Chopin - accompanied the lunch and kicked off a bloc of discussions about the nexus of AI and how we define what makes us human. Pindar Van Arman, Artist, Robotist and creator of Cloudpainter, a portrait-painting robot, demonstrated how his robots use generative adversarial networks to create their own independent rendering of faces. But this artificial creativity is still just a tool for him as the artist. He remains the ultimate creative agent in his view. Joanna Bryson from the University of Bath argued that we need to design AI to not allow us to anthropomorphize it. She made the case that approaching AI as if it were human is wrought with traps – including imbuing AI with rights or holding it liable when we should instead continue to think about AI-driven processes and machines as tools.

The Powers and Limitations of Public Policy in AI Regulation

In the afternoon kick-off panel - Disruptive Times call for Disruptive Measures: Democracy, Transparency and Legislating Public Accountability - the discussion turned to comparing political cultures and the challenges that AI posed for policy globally. Renata Jungo Brüngger opened the discussion as to whether AI would require alterations in the standard of ethics. Hilgendorf pushed back on any notion that AI should have rights. Conveniences and enhancements offered by new technology would have to be carefully balanced against privacy and human rights and should not jeopardize our ability to shape the future of work. Chau addressed the need for inclusion of all stakeholders to build trust and legitimacy and stressed that sustainable legislation on AI must be consensus-based.

Timing of legislative processes was also important. Brüngger emphasized that the legislative process currently is extremely slow and does not keep pace with technology. Gagné countered that a generalized approach would also be problematic. He emphasized that the regulatory approach would have to be granular, sector-based and inclusive. Gagné also pointed to the importance of international agreements. He noted the potential of AI-based arbitrage with companies popping up processes in jurisdictions outside of regulation with “AI havens” joining tax havens as the scourge of the international economy. Chau saw the US as lagging behind China (in investment) and Germany (in workforce incorporation), a view that surprised many in the audience who saw the US as the AI superpower without equal.



„Is Germany Ready for the AI Revolution? Rethinking First Principles and Readyng Society”



Danyal Bayaz, Member of the German Bundestag



Participants of the Fintech Breakout Session



Jana Eggers, CEO and Member of the Board, Nara Logics

Panelists in the session included Ed Chau, California State Assembly, District 49, Chair, Assembly Committee on Privacy and Consumer Protection, Chair, Assembly Select Committee on Emerging Technologies and Innovation; Jean-Francois Gagné, CEO, Element AI; Eric Hilgendorf, Professor of Law, University of Würzburg, Member of the Ethics Commission on Automated Driving, German Government; and Renata Jungo Brüngger, Member of the Board of Management of Daimler AG, with responsibility for Integrity and Legal Affairs, Member of the Ethics Commission on Automated Driving, German Government. The conversation was moderated by Brent Goff, Chief Anchor & Host of "The Day with Brent Goff", DW News (Deutsche Welle).

Applied AI and Its Discontents

The conference then broke up into three breakout sessions aimed at exploring the promise and peril of practical applications related to AI. In a session on health, Rasmus Rothe and Jonas Muff of Merantix demonstrated how AI could increase the effectiveness of screening and diagnosis in areas like mammography. In a session on AI and Fintech, Maksym Prasolov, the CEO of the firm Neuromation, demonstrated how distributed ledger technology could be applied to effectively reduce cost and stay competitive by example of the highly contested field of data analysis. Danyal Bayaz, new member of the Bundestag and fintech expert from Baden-Württemberg, contended that current fraud law and enforcement could be applied to cases involving crypto-currencies but, generally, argued that it was an area requiring more public policy attention. In the third session, Irina Fiegenbaum from TÜV NORD explored whether home-based machine assistants like Alexa were a double-edged sword, offering convenience at the cost of privacy and where that could lead. Conference attendees were able to attend any one of the concurrent sessions.

Is Humanity following the Path of Icarus or Daedalus?

The bloc began with remarks from Heinz Dürr, Honorary Chairman of the Supervisory Board at Dürr AG. He opened with the parable of Daedalus and Icarus explaining the cautionary tale of how knowledge could either serve as an instrument to constructively extend human endeavors or could become an ultimately destructive force fueling humankind's hubris. How will AI be used? Will AI become more intelligent than humankind and will it overtake humanity?

The discussants that followed tried to answer these questions and demystify the power of AI. Jana Eggers flipped the paradigm saying that we should not focus on making machines more human but on the ability of machines to serve humans. The central question is what the purpose of specific technology is and the social context the technology is in. Therein lies the ethical framework that will guide its development. One person brought up Tay, the Microsoft AI chatbot, which was designed to „maximize engagement.“ In the U.S., the way to do that is to maximize divisiveness and anger. As a result, Tay's interactions led it to become racist and sexist. In other cultures, like China, Tay has become a functioning source of social interaction.

On the panel: Jana Eggers, CEO and Member of the Board at Nara Logics; Christoph von der Malsburg, Senior Fellow at the Frankfurt Institute for Advanced Studies; Marek Rosa, CEO of GoodAI and Keen Software House, and Father Eric Salobir, President of the OPTIC Network – Human Technology Foundation. Stefan Heumann, Member of the Board of the Stiftung Neue Verantwortung, moderated the panel.



BACKGROUND: THE ASPEN INSTITUTE GERMANY

The Aspen Institute Germany was founded in 1974 as the first Aspen Institute outside the USA. Its mission is to foster values-based leadership, encouraging individuals to reflect on the ideals and ideas that define a good society, and to provide a neutral and balanced venue for discussion and acting on critical issues. The individual and social values of the humanistic tradition are promoted through long lasting networks as well as a continued open-minded and critical discourse among top executives from Europe, America, and the whole world. Since its foundation in 1974, Aspen Germany has established a unique track record in building German-U.S. cooperation and in fostering the East-West dialogue with representatives of the former Soviet Union during the Cold War.

Until today, Aspen Germany facilitates non-partisan, substantive dialogues on sensitive international policy issues.

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