AAAI-17 San Francisco

Thirty-First AAAI Conference
on Artificial Intelligence

Twenty-Ninth Conference on
Innovative Applications of
Artificial Intelligence

Seventh Symposium
on Educational Advances
in Artificial Intelligence

AAAI-17 / IAAI-17 / EAAI-17
Conference Program

February 4 – 9, 2017

Hilton San Francisco
Union Square
San Francisco, California, USA

Sponsored by the
Association for the Advancement of Artificial Intelligence

Cosponsored by
AI Journal, *Amazon, IBM Research, Baidu, Tencent, Capital One, Facebook, Infosys, Microsoft Research, Shanghai Xiaoi Robot Co., Ltd, Beijing Bytedance Technology Co., Ltd, Adobe, Cheetah Mobile, Lionbridge, University of Southern California/Information Sciences Institute, ACM/SIGAI, CRA Computing Community Consortium (CCC), David E. Smith, and David Aha*

Photograph courtesy Getty Images

Morning	Afternoon	Evening
	Saturday, February 4	
Tutorial Forum Workshops AAAI/SIGAI DC	Tutorial Forum Workshops AAAI/SIGAI DC	Student Welcome Reception
	Sunday, February 5	
AI in Practice Tutorial Forum Workshops AAAI/SIGAI DC EAAI Invited Talk: Howard AI Job Fair	AI in Practice Tutorial Forum Workshops AAAI/SIGAI DC EAAI Invited Panel: NSF Research AI Job Fair	Opening Reception AAAI Invited Talk: Parker
	Monday, February 6	
AAAI / IAAI Welcome / AAAI Awards AAAI Invited Talk: Picard AAAI Classic Paper Award Talk: Fox IAAI Award Talk: Aha EAAI Invited Panel: Ethics Education Exhibits Video Competition Viewing	Lunch with a Fellow AAAI Panel: AI for Social Good What's Hot Talks IAAI Technical Program EAAI Award Talk: Thrun EAAI Invited Panel: AI for Education Exhibits Video Competition Viewing	Fellows Dinner AAAI Panel: AI History: Expert Systems Poster / Demo Session 1
	Tuesday, February 7	
Women's Mentoring Breakfast AAAI Invited Talk: Young IAAI Invited Talk: Frank Senior Member Summary Talks Student Abstract Spotlights Exhibits Video Competition Viewing	Lunch with a Fellow AAAI Technical Program IAAI Technical Program Exhibits Video Competition Viewing	AAAI Invited Talk: Dayan Poster / Demo Session 2 Games Night Video Competition Awards
	Wednesday, February 8	
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Sponsoring Organizations

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David Aha

Awards

AAAI Special Awards and honors will be presented Monday, February 6, 8:30 – 8:55 AM, in Continental 4-6 on the Ballroom Level of the Hilton San Francisco. AAAI-17 Awards will be presented on Wednesday, February 8, 8:30 – 8:50 AM in Continental 4–6.

AAAI Special Awards and Honors

AAAI Honors and Special Awards will be presented by Thomas Dietterich, Awards Committee Chair and AAAI Past President, Subbarao Kambhampati, AAAI President, and Yolanda Gil, AAAI President-Elect.

2017 AAAI Fellows Recognition

Each year, the Association for the Advancement of Artificial Intelligence recognizes a small number of members who have made significant sustained contributions to the field of artificial intelligence, and who have attained unusual distinction in the profession. AAAI is pleased to announce the five newly elected Fellows for 2017, who will be honored during the annual Fellows dinner on Monday, February 6:

Ronen I. Brafman (Ben-Gurion University, Israel)
Eduard H. Hovy (Carnegie Mellon University, USA)
Tommi S. Jaakkola (Massachusetts Institute of Technology, USA)
Maurizio Lenzerini (Università degli Studi di Roma "La Sapienza," Italy)
Fangzhen Lin (Hong Kong University of Science and Technology, Hong Kong)
Dale Eric Schuurmans (University of Alberta, Canada)
Munindar P. Singh (North Carolina State University, USA)

Senior Member Recognition

AAAI is pleased to announce the newly elected 2017 AAAI senior members, who are being recognized for their long-term participation in AAAI and their distinction in the field of artificial intelligence.

Alessandro Cimatti (Fondazione Bruno Kessler, Italy)
Xuelong Li (Chinese Academy of Sciences, China)
Nathan Sturtevant (University of Denver, USA)

Classic Paper Awards

The 2017 AAAI Classic Paper award honors the

AAAI Conference Committee

AAAI Conference Committee Chair
Shlomo Zilberstein (University of Massachusetts Amherst, USA)

AAAI-17 Program Cochairs
Satinder Singh (University of Michigan, USA)
Shaul Markovitch (Technion, Israel)

IAAI-17 Chair and Cochair
James Crawford (Orbital Insight, USA)
G. Michael Youngblood (PARC, a Xerox Company, USA)

EAAI-17 Symposium Cochairs
Eric Eaton (University of Pennsylvania, USA)
Sven Koenig (University of Southern California, USA)

EAAI Outreach Chair
Sheila Tejada (University of Southern California, USA)

Cognitive Systems Track Cochairs
Ashok Goel (Georgia Institute of Technology, USA)
Mark Riedl (Georgia Institute of Technology, USA)

Computational Sustainability Track Cochairs
Bistra Dilkina (Georgia Institute of Technology, USA)
Sabine Storandt (University of Freiburg, Germany)

Integrated Systems Track Cochairs
Alessandro Saffiotti (Örebro University, Sweden)
Daniele Magazzeni (King's College, UK)

Demonstration Track Chair
Shivaram Kalyanakrishnan (Indian Institute of Technology Bombay, India)

Senior Member Track Cochairs
Prasad Tadepalli (Oregon State University, USA)
Adele Howe (Colorado State University, USA)

What's Hot Cochairs
Douglas H. Fisher (Vanderbilt University, USA)
Holger H. Hoos (University of British Columbia, Canada)

Tutorial Cochairs
Malte Helmert (University of Basel, Switzerland)
Ariel Felner (Ben Gurion University, Israel)

Workshop Cochairs
Christopher Kiekintveld (University of Texas at El Paso, USA)
David Wingate (Brigham Young University, USA)

Doctoral Consortium Cochairs
David W. Aha (Naval Research Laboratory, USA)
Maria Chang (IBM Research, USA)

Student Abstract and Poster Cochairs
Pradeep Varakantham (Singapore Management University, Singapore)
Erez Karpas (Technion – Israel Institute of Technology, Israel)

Student Outreach Chair
Sriraam Natarajan (Indiana University, USA)

AI in Practice Cochairs
Evgeniy Gabrilovich (Google Research)
Vanja Josifovski (Pinterest)

AAAI/ACM SIGAI Job Market Cochairs
Nathan Sturtevant (University of Denver, USA)
William Yeoh (New Mexico State University, USA)

Video Competition Cochairs
Charles Isbell (Georgia Institute of Technology, USA)
Scott Niekum (University of Texas at Austin, USA)

Women's Mentoring Breakfast Cochairs
Sheila McIlraith (University of Toronto, Canada)
Kiri Wagstaff (Jet Propulsion Laboratory, USA)

Game Night Coczars
Michael Bowling (University of Alberta, Canada)
Michael Littman (Rutgers University, USA)

Fundraising Cochairs
Sandip Sen (University of Tulsa, USA)
Jeremy Frank (NASA, USA)

Acknowledgments

The Association for the Advancement of Artificial Intelligence acknowledges and thanks the above-named individuals for their generous contributions of time and energy to the successful creation and planning of the Thirty-First AAAI Conference on Artificial Intelligence and the Twenty-Ninth Conference on Innovative Applications of Artificial Intelligence. (A complete listing of the AAAI-17 and IAAI-17 Program Committee members will appear in the conference proceedings.)

authors of the following paper deemed most influential from the Sixteenth National Conference on Artificial Intelligence, held in 1999 in Orlando, Florida, USA.

2017 AAAI Classic Paper Award

Monte Carlo Localization: Efficient Position Estimation for Mobile Robots
Dieter Fox, Wolfram Burgard, Frank Dellaert, Sebastian Thrun
For pioneering the application of particle filtering to provide an effective and scalable method for robot localization.

A Classic Paper Honorable Mention is given to:

Combining Collaborative Filtering with Personal Agents for Better Recommendations
Nathaniel Good, J. Ben Schafer, Joseph A. Konstan, Al Borchers, Badrul Sarwar, Jon Herlocker, John Riedl
For developing an effective way to combine collaborative filtering and content filtering to provide better recommendations to users.

The Classic Paper Award Talk, by Dieter Fox, will be held Monday, February 6 at 11:30 AM in Plaza B on the lobby level of the Hilton San Francisco.

2017 Distinguished Service Award

The AAAI Distinguished Service Award recognizes one individual each year for extraordinary service to the AI community. The 2017 recipient is James A. Hendler, Rensselaer Polytechnic, who is being recognized for his contributions to the field of artificial intelligence through sustained service to AAAI, other professional societies and government activities promoting the importance of artificial intelligence research.

2017 AAAI/EAAI Outstanding Educator Award

The AAAI/EAAI Outstanding Educator Award was established to recognize a person (or group of people) who has (have) made major contributions to AI education that provide long-lasting benefits to the AI community. The 2017 award is being presented to Sebatian Thrun, for his pioneering efforts on the creation of high-quality, widely available, and affordable online courses, including seminal artificial intelligence courses, and for demonstrating the excitement of AI research in self-driving cars and navigation. This award is jointly sponsored by AAAI and the Symposium on Educational Advances in Artificial Intelligence.

Robert S. Engelmore Memorial Award and Lecture

The Robert S. Engelmore Award is sponsored by IAAI-17 and *AI Magazine,* and will be presented by James Crawford and Michael Youngblood, IAAI-17 chair and cochair, and Ashok Goel, editor-in-chief, *AI Magazine.* The award and lecture was established in 2003 to honor Dr. Engelmore's extraordinary service to AAAI, *AI Magazine,* and the AI applications community, and his contributions to applied AI. The 2017 award will be presented to David Aha (Naval Research Laboratory) for pioneering research contributions and high-impact applications in autonomous systems, machine learning, and case-based reasoning, and for extensive contributions to AAAI, including educating the broader AI community through AAAI doctoral consortia and video competitions. The lecture will be held on Monday, February 6, 10:00 AM, in Continental 4-6 on the ballroom level of the Hilton San Francisco.

2017 Feigenbaum Prize

The AAAI Feigenbaum Prize was established to recognize and encourage outstanding artificial intelligence research advances that are made by using experimental methods of computer science. The 2017 prize is being awarded to Yoav Shoham, Stanford University/Google, for high-impact basic research in artificial intelligence — including knowledge representation, multiagent systems, and computational game theory — and translating the basic research into impactful and innovative commercial products. The Feigenbaum Prize is supported by a grant from the Feigenbaum Nii Foundation.

AI Magazine Emeritus Recognition

For exemplary and long-standing service during more than 17 consecutive years, AAAI and A*I Magazine* will honor and recognize David B. Leake with the title Editor-in-Chief emeritus. The presentation will be given by Ashok Goel, current Editor-in-Chief, *AI Magazine.*

IAAI-17 Deployed Applications Awards

The two IAAI-17 Deployed Application Awards will be announced during the Opening Ceremony on Monday, February 6 by IAAI-17 Chair James Crawford and Cochair Michael Youngblood. Certificates will be presented during paper sessions.

Large-Scale Occupational Skills Normalization for Online Recruitment
Faizan Javed, Phuong Hoang, Thomas Mahoney, Matt McNair

Phase-Mapper: An AI Platform to Accelerate High Throughput Materials Discovery
Yexiang Xue, Junwen Bai, Ronan Le Bras, Brendan Rappazzo, Richard Bernstein, Johan Bjorck, Liane Longpre, Santosh K. Suram, Robert B. van Dover, John Gregoire, Carla P. Gomes

AAAI-17 Awards

The AAAI-17 Awards will be presented by Program Cochairs Shaul Markovitch and Satinder Singh. AAAI-17 Awards will be presented on Wednesday, February 8, 8:30 – 8:50 AM in Continental 4–6.

AAAI-17 Outstanding Paper Award

This year, AAAI's Conference on Artificial Intelligence honors the following two papers, which exemplify high standards in technical contribution and exposition by regular and student authors.

AAAI-17 Outstanding Paper Award

Label-Free Supervision of Neural Networks with Physics and Domain Knowledge
Russell Stewart and Stefano Ermon

AAAI-17 Outstanding Student Paper Award

The Option-Critic Architecture
Pierre-Luc Bacon, Jean Harb and Doina Precup

AAAI-17 Blue Sky Idea Awards

AAAI, in cooperation with the Computing Research Association Computing Community Consortium (CCC), is pleased to present three Blue Sky Awards for papers that present ideas and visions that can stimulate the research community to pursue new directions, such as new problems, new application domains, or new methodologies. The recipients of the Blue Sky Idea travel awards, sponsored by the CCC, are:

The AI Rebellion: Changing the Narrative
David W. Aha, Alexandra Coman

Moral Decision Making Frameworks for Artificial Intelligence
Vincent Conitzer, Walter Sinnott-Armstrong, Jana Schaich Borg, Yuan Deng, Max Kramer

Getting More Out of the Exposed Structure in Constraint Programming Models of Combinatorial Problems
Gilles Pesant

AAAI-17 Outstanding Program Committee Members

Each year, AAAI recognizes several outstanding program committee and senior program committee members. These individuals have gone above and beyond the expectations for the role, showing exceptional judgment, clarity, knowledgeability, and leadership in reaching a consensus decision.

Outstanding Senior Program Committee Awards

Thomas Eiter (Vienna University of Technology, Austria)

Jussi Rintanen (Aalto University, Finland)

Sven Koenig (University of Southern California, USA)

Outstanding Program Committee Awards

Luis Ortiz (University of Michigan-Dearborn, USA)

Aris Filos-Ratsikas (University of Oxford, UK)

Ingo Pill (Graz University of Technology, Austria)

Miquel Ramírez (University of Melbourne, Australia)

Christer Bäckström (Linköping University, Sweden)

Richard Valenzano (University of Toronto, Canada)

Senior Member Presentations

Tuesday – February 7: Continental 9, Ballroom Level
Wednesday, February 8: Golden Gate 1-2, Lower Level

The AAAI-17 Senior Member Presentation track comprises two subtracks: Summary Talks: established researchers provide broad talks on a well-developed body of research or an important new research area; and Blue Sky Talks: authors present ideas and visions that can stimulate the research community to pursue new directions, such as new problems, new application domains, or new methodologies, that are likely to stimulate significant new research. Seven summary talks and five Blue Sky talks will be presented (please see the online conference schedule for a list of papers and exact times).

What's Hot Talks

Monday, February 6: Continental 9, Ballroom Level
Thursday, February 9: Golden Gate 1-2, Lower Level

The AAAI-17 "What's Hot" track aims to present exciting recent advances and current challenges in subareas of Artificial Intelligence with major conferences or competitions. Ten "What's Hot" presentations will be presented, representing the AIIDE, ANAC, CP, CPAIOR, GECCO, Humanoids: 2016, ICCBR, KDD, and SAT conferences, as well as the Kaggle competitions (please see the online conference schedule for a list of papers and exact times).

AAAI-17 / IAAI-17 / EAAI-17 Invited Presentations

AAAI-17 and IAAI-17 Invited Presentations will be held in Continental Ballroom 4-6, Monday – Thursday, February 5–9. EAAI-17 Invited Presentations will be held in Golden Gate 1-2.

Sunday, February 5

9:05 – 10:05 AM

EAAI-17 Invited Talk:

Designing Assistive Robots and Technologies for Pediatric Care

Ayanna Howard (Georgia Institute of Technology, USA)

In recent months, there has been an upsurge in the attention given to robots and artificial intelligence and their inevitable destruction of the human race if we are not watchful. Whether your opinion sits on one side or the other, the fact remains; robots have already become a part of our society. In particular, with recent advances in robotics, therapeutic interventions using robots is now ideally positioned to make an impact. There are numerous challenges though that must still be addressed. In this talk, Howard will discuss the role of robotics and related technologies for pediatric therapy. She will present her approaches in which these technologies address real-life therapy goals for children with special needs.

2:30 - 3:30 PM

EAAI-17 Panel

NSF Research Experience for Undergraduates (REU) Sites

Moderated by Eric Eaton (University of Pennsylvania)
Panelists: Georgios Anagnostopoulos (Florida Institute of Technology), Stephanie E. August (National Science Foundation), Zach Dodds (Harvey Mudd College) and Bill Smart (Oregon State University)

This panel will discuss the selection process for NSF REU sites, provide advice about how to write successful site proposals, best practices for running sites, and how both sites and individual PIs can best mentor undergraduate summer research students.

8:00 - 9:00 PM

AAAI-17 Invited Talk:

The Creation of the US National Artificial Intelligence Research and Development Strategic Plan

Lynne Parker (University of Tennessee and National Science Foundation, USA)

Released by the White House in October 2016, the National AI R&D Strategic Plan outlines a set of AI research priorities for the U.S. Federal Government (www.nitrd.gov/news/national_ai_rd_strategic_plan.aspx). In this talk, I will discuss the development of the report from my perspective as cochair of the interagency Task Force that generated the report. I will discuss the rationale behind the content of the Plan, as well as insights on how multiagency collaboration led to the creation of the report. I will also discuss possible future benefits that might result from the Plan. Ample time for questions and answers will be provided.

Monday, February 6

8:30 - 8:55 AM

AAAI-17 / IAAI-17 Plenary Session:

AAAI-17/IAAI-17 Welcome and Opening Remarks, AAAI Organizational Awards/Honors

9:00 – 9:50 AM

AAAI-17 Invited Talk:

Adventures in Building Emotional Intelligence Technologies

Rosalind Picard (MIT and Empatica, USA)

Years ago, I set out to create technology with emotional intelligence, demonstrating the ability to sense, recognize, and respond intelligently to human emotion. At MIT we designed studies, gathered data, and developed signal processing and machine learning techniques to see what insights could be reliably obtained. In this talk I will highlight the most surprising findings during this adventure. These include new insights about the "true smile of happiness," discovering new ways cameras (and your smartphone, even in your handbag) can compute your biosignals, finding electrical signals on the wrist that reveal insight into deep brain activity, and learning surprising implications of wearable sensing for autism, anxiety, sleep, memory, epilepsy, and more. What is the biggest challenge for AI to solve next?

10:00 – 11:00 AM

IAAI-17 Robert S. Engelmore Award Lecture

Engelmore Award Lecture

David Aha (Naval Research Laboratory, USA)

10:00 – 11:00 AM

EAAI-17 Panel

AI Ethics Education

Moderated by Sven Koenig (University of Southern California)
Panelists: Benjamin Kuipers (University of Michigan), Judy Goldsmith (University of Kentucky), and Illah R. Nourbakhsh (Carnegie Mellon University CREATE Lab)
Sponsored by the Future of Life Institute

The panel will discuss how, as educators, we can incorporate ethical issues into undergraduate or graduate AI classes, such as the following questions: Do we need to worry about the reliability, robustness, and safety of AI systems? Do we need to provide oversight of their operation? How do we guarantee that their behavior is consistent with social norms and human values? Who is liable for incorrect AI decisions? How will AI technology impact standard of living, distribution and quality of work, and other social and economic aspects?

2:00 – 3:00 PM

AAAI/EAAI Outstanding Educator Award Lecture:

Democratizing Education— Why Not?

Sebastian Thrun (Udacity, KittyHawk, Stanford, Georgia Tech)

When Thrun and Norvig made Stanford's graduate-level AI course public (as the first global MOOC), 160,000 students from 195 countries signed up. This started a global wave of massive open online courses, through which tens of millions of students were able to receive world-class education. Thrun will report on progress at Udacity, the start-up company that grew out of this experiment. Udacity has become a dominant educator in areas as advanced as self-driving cars or virtual reality. Its hundreds of industrial partners willingly hire Udacity graduates, sometimes even without job interview. Thrun will lay out his vision for global education, arguing that the democratization of higher education might one day double the world's GDP.

2:50 – 3:30 PM

EAAI-17 Panel:

AI for Education

Moderated by Sheila Tejada (University of Southern California)
Panelists: Yolanda Gil (USC Information Sciences Institute), Ayanna Howard (Georgia Tech), Peter Norvig (Google), Mehran Salami (Stanford University), and Sebastian Thrun (Udacity, KittyHawk, Stanford, Georgia Tech)

The panel will discuss how we can apply AI techniques in the domain of education to improve teaching, student evaluation, and learning. The panelists will talk about which aspects of the education problem they were able to address with AI and give insight into the education space, suggesting where other educators and researchers can apply AI tools to improve their own teaching or student learning.

4:00 PM – 5:00 PM

AAAI-17 Invited Panel:

AI for Social Good

Moderator: Milind Tambe (University of Southern California)
Panelists: Eric Horvitz (Microsoft Research), Peter Mockel (Worldbank IFC), Lynne Parker (National Science Foundation and University of Tennessee, Knoxville), and Gideon Mann (Bloomberg)

Conversations about future negative consequences of AI sometimes drown out discussions of its potential in helping solve complex societal problems. This panel will focus on the positive changes that AI will have on social good and its potential to benefit low resource communities, emerging markets, and solving wicked social problems. This panel will also discuss how to encourage and facilitate further research in this direction.

5:10 PM – 6:10 PM

AAAI-17 Invited Panel:

AI History: Expert Systems

Moderator: David C. Brock (Historian, Computer History Museum, Mountain View, California)

Panelists: Edward Feigenbaum (Kumagai Professor Emeritus, Stanford University), AAAI President, 1980–1981; Bruce Buchanan (University Professor Emeritus, University of Pittsburgh), AAAI President, 1999–2001; Randall Davis (Professor EECS and CSAIl, MIT), AAAI President 1995–1997; Eric Horvitz (Tech. Fellow and Director, Microsoft Research), AAAI President, 2007–2009

A *New York Times Magazine* article recently announced "The Great A.I. Awakening": The rise of Recognition Systems based on machine learning methods and neural networks, and their use by commercial firms. This view predominates inside and outside of the AI community. Yet this view neglects AI's previous awakenings. In 1985, Allen Newell, AAAI's first President, wrote: "There is no doubt, as far as I am concerned, that the development of expert systems is the major advance in the field during the last decade.... The emergence of expert systems has transformed the enterprise of AI." Further, *Computerworld* reported that, "Recent advances in expert systems are putting society at the brink of a massive application of artificial intelligence." From, roughly, 1970 to 1993, Expert Systems captivated the AI community and public as do today's Recognition Systems. Expert Systems technology was absorbed by the software industry, omnipresent but unnoted in contemporary software. What is the history of Expert Systems, and how does it inform the development of machine learning and neural networks today? Join a panel of former AAAI presidents — all major contributors to the expert systems story — for insights and perspectives.

Tuesday, February 7

8:50 – 9:50 AM

AAAI-17 Invited Talk:

Statistical Spoken Dialogue Systems and the Challenges for Machine Learning

Steve Young (Cambridge University Engineering Department, UK)

This talk will review the principal components of a spoken dialogue system and then discuss the opportunities for applying machine learning for building robust high performance open-domain systems. The talk will be illustrated by recent work at Cambridge University using machine learning for belief tracking, reward estimation, multidomain policy learning and natural language generation. The talk will conclude by discussing some of the key challenges in scaling these solutions to work in practical systems.

10:00 – 11:0 AM

IAAI-17 Invited Talk:

Enabling Autonomous Space Mission Operations with Artificial Intelligence

Jeremy Frank (Intelligent Systems Division, NASA Ames Research Center)

For over 50 years, NASA's crewed missions have been confined to the Earth-Moon system, where speed-of-light communications delays between crew and ground are practically nonexistent. This ground-centered mode of operations, with a large, ground-based support team, is not sustainable for NASA's future human exploration missions to Mars. Future astronauts will need smarter tools to make decisions on their own, without assistance from ground-based mission control. In this talk, we will describe several demonstrations of astronaut decision support tools using AI techniques including automated planning, fault diagnosis, automated reasoning and machine learning. These demonstrations show how developments in AI will enable humanity's journey to Mars.

5:10 – 6:10 PM

AAAI-17 Invited Talk:

The Consilience of Neural and Artificial Reinforcement Learning

Peter Dayan (Gatsby Unit, University College London, UK)

Animals that fail to predict or control events associated with rewards and punishments are not long for this world. Reinforcement learning thus offers a body of theory that organizes and motivates a huge wealth of work in psychology and neuroscience. Equally, these latter disciplines provide inspiration for new methods, ideas and problems in the wider field of reinforcement learning. I will discuss this consilience, illustrating the fecundity of the approaches and some of the challenges and opportunities ahead.

Wednesday, February 8

8:50 – 9:50 AM

AAAI-17 / IAAI-17 Joint Invited Talk:

Self-Driving Cars and the Future of Mobility

Dmitri Dolgov (Waymo)

In the US, more than 35,000 people die in car accidents every year; 100 million hours are wasted every day on people's commutes. We can do better. Self-driving cars offer a promise of higher safety, efficiency, and convenience in transportation. At Waymo (formerly Google's self-driving car project), we're working to bring self-driving technology to millions of people. In 2015, we took a major step towards that goal: we performed the world's first fully driverless ride on public roads in an uncontrolled setting. This talk will cover the technology behind fully self-driving cars and how they're able to safely share the roads with pedestrians, cyclists and other road users.

4:00 – 5:00 PM

AAAI-17 Invited Talk:

Learning How to Move and Where to Look from Unlabeled Video

Kristen Grauman (University of Texas at Austin, USA)
(Sponsored by Capital One)

The status quo in visual recognition is to learn from batches of unrelated Web photos labeled by human annotators. Yet cognitive science tells us that perception develops in the context of acting and moving in the world — and without intensive supervision. How can unlabeled video augment computational visual learning? I'll describe our recent work exploring how a system can learn effective representations by watching unlabeled video. Fist we consider how the ego-motion signals accompanying a video provide a valuable cue during learning, allowing the system to internalize the link between "how I move" and "what I see." Next, I explore how the temporal coherence of video permits new forms of invariant feature learning, whether by capturing how object-centric regions evolve over time or by representing higher order consistency in visual changes. Incorporating these ideas into various recognition tasks, we demonstrate the power in learning from ongoing, unlabeled visual observations — even overtaking traditional heavily supervised approaches in some cases. Finally, I examine how simply having seen unlabeled human-taken videos, a system can learn to mimic human videographer tendencies, automatically creating normal field of view video out of unedited 360 degree panoramas.

Thursday, February 9

8:00 – 8:45 AM

AAAI-17 Invited Panel

Advances in AI in Poker: Two Mini-Talks on Recent Breakthroughs and a Panel

Moderator: Kevin Leyton-Brown (University of British Columbia, Canada)
Panelists: Michael Bowling (University of Alberta, Canada) and Tuomas Sandholm (Carnegie Mellon University, USA)

8:50 – 9:50 AM

AAAI-17 Invited Talk:

Convex and Combinatorial Optimization for Dynamic Robots in the Real World

Russ Tedrake (MIT Computer Science and Artificial Intelligence Laboratory and Toyota Research Institute, USA)

Humanoid robots walking across intermittent terrain, robotic arms grasping multifaceted objects, or UAVs darting left or right around a tree ... many of the dynamics and control problems we face today have both rich nonlinear dynamics and an inherently combinatorial structure. In this talk, Tedrake will review some recent work on planning and control methods which address these two challenges simultaneously. He will present our explorations with mixed-integer convex-, semidefinite-programming-relaxations, and satisfiability-modulo-theory(SMT)-based methods applied to hard problems in legged locomotion over rough terrain, grasp optimization, and UAVs flying through highly cluttered environments.

AI in Practice

Sunday, February 5

AI in Practice showcases invited presentations of visionary AI practitioners that will reflect on key successes of AI in the commercial world and crystalize emerging technologies and promising new directions. Registration is open to all via the online registration form. AAAI-17 registrants may also attend for a discounted additional fee. All attendees should pick up their badges in onsite registration. For additional speaker information, please consult the AAA-17 website.

9:30 – 10:15 AM

Invited Keynote

Haifeng Wang (Baidu)

10:15 – 11:00 AM

AI that Creates Professional Opportunities at Scale

Deepak Agarwal (LinkedIn)

Professional opportunities can manifest itself in several ways like finding a new job, enhancing or learning a new skill through an online course, connecting with someone who can help with new professional opportunities in the future, finding insights about a lead to close a deal, sourcing the best candidate for a job opening, consuming the best professional news to stay informed, and many others. LinkedIn is the largest online professional social network that connects talent with opportunity at scale by leveraging and developing novel AI methods. In this talk, I will provide an overview of how AI is used across LinkedIn and the challenges thereof. The talk would mostly emphasize the principles required to bridge the gap between theory and practice of AI, with copious illustrations from the real world.

11:00 – 11:45 AM

AI for Complex Situations: Beyond Uniform Problem Solving

Michael Witbrock (IBM)

The majority of recent technical advances in AI stem from problems that are structurally fairly uniform, but have complex and hard-to-describe patterns of variation within that structure. This structural uniformity characterizes, for example, speech signals up to transcription, text up to approximate translation, information extraction, video game play, lane-following, object labeling, and even the game of Go. However, many of the problems that we typically write programs for do not appear to be structurally uniform in this way: understanding a contract, or a regulation, and deciding how it affects a particular business process, is structurally complex: each detail of how the elements of the problem instance relate to one another is potentially critical. General reading comprehension, or automated programming seem similarly complex. If we are to produce AI systems that provide professional level assistance, we must address this complexity along with the variation. In this talk, I will discuss some of the complex, professional level problems we are attempting to address at IBM, and sketch some research paths, from both the past and possible future of AI.

1:00 – 1:45 PM

The Future Capability and Impact of AI

Dialog with Ray Kurzweil

1:45 – 2:30 PM

"OK Google, fold my laundry s'il te plaît"

Vincent Vanhouke (Google)

Deep learning has enabled computers to approach human-level performance on many practical perception and language understanding tasks, ranging from speech recognition to computer vision and machine translation. One of today's grand AI challenges is to bring these new capabilities into the physical world, and teach machines how to behave and make themselves useful in human-centered environments. In this talk, I'll argue how robotics may be on the cusp of its very own deep learning revolution, but that for this endeavor to succeed, machine learning practitioners have to break from the relative comfort of the large-scale supervised learning setting that has buoyed the field for the past decade and humbly face some thorny problems that have comparatively been neglected: data scarcity and skill transfer, active and lifelong learning, as well as safety and predictability. The good news is that tackling these problems is also one of the necessary next steps towards bridging the gap between mere learning and actual intelligence.

2:30 – 3:15 PM

Fast and Personal — Scaling Deep Learning with MxNet

Alex Smola (Amazon)

In this talk I will address the challenges of building deep learning systems that are able to adjust to users for content recommendation and user engagement estimation. They rely on nonparametric latent variable models, such as LSTMs to deal with nonstationary time-series data. Going beyond models, I will discuss how scalable deep learning models can be implemented efficiently in MxNet, a parallel distributed high performance deep learning framework. In particular, I will discuss programming models, its execution engine and how to distribute computation efficiently over hundreds of GPUs with linear scaling.

3:45 – 4:30 PM

Invited Keynote

Gary Marcus (Uber and NYU)

4:30 – 5:15 PM

Designing AI at Scale to Power Everyday Life

Joaquin Quinonero Candela (Facebook)

The majority of the experiences and interactions people have on Facebook today are made possible with AI. Well over 1 billion people enjoy unique, personalized experiences on Facebook that are powered by a wealth of AI and machine learning algorithms. AI is an incredibly fast-moving field: engineers and researchers across the company are turning the latest research breakthroughs into tools, platforms, and infrastructure that make it possible for anyone at Facebook to use AI in the experiences and products they build. This talk will look at how Facebook is conducting and applying industry-leading research to help drive advancements in AI disciplines like computer vision, language understanding, speech and video. We will also talk about building an infrastructure that anyone at Facebook can use to easily reuse algorithms in different products, scale to run thousands of simultaneous custom experiments, and give concrete examples of how employees across the company are able to leverage these platforms to build new AI products and services.

5:15 – 6:00 PM

Lessons Learned from Building Practical AI Systems

Xavier Amatriain (Quora)

There are many good textbooks and courses where you can be introduced to machine learning and maybe even learn some of the most intricate details about a particular approach or algorithm. While understanding that theory is a very important base and starting point, there are many other practical issues related to building real-life ML systems that you don't usually hear about. In this talk I will share some of the most important lessons learned in years of building the large-scale ML solutions that power products like Quora or Netflix to delight millions of users across the world. I will discuss issues such as model and feature complexity, sampling, regularization, distributing/parallelizing algorithms, the importance of metrics, or how to think about offline versus online computation. I will also address how to combine supervised and nonsupervised approaches, the deep learning "hype," or the role of ensembles in practical ML systems.

Social Events

AAAI Opening Reception

Sunday, February 5, 6:00 PM – 7:30 PM
Yosemite Ballroom, Ballroom Level

The AAAI-17 Opening Reception will be held in the Yosemite Ballroom of the Hilton San Francisco Union Square. A variety of heavy hors d'oeuvres and one complimentary beverage will be served. A no-host bar will also be available. Admittance to the reception is included in the AAAI-17 technical registration. A $125.00 per person fee ($20.00 for children over the age of 12) will be charged for guests and other nontechnical conference registrants.

AAAI-17 Poster / Demo Sessions

Monday, February 6, 6:30 – 8:30 PM
Tuesday, February 7, 6:30 – 8:30 PM
Wednesday, February 8, 6:30 – 8:30 PM
Imperial Ballroom, Ballroom Level

Each AAAI-17 poster / demo session will include posters by authors who presented poster spotlights that day (please see schedule for detail). In addition, a total of 13 technical demos will be divided among the three evening sessions. Monday evening will also include Doctoral Consortium and EAAI posters. Tuesday and Wednesday evenings will include posters by student abstract authors. For a listing of posters and demos, please see the online technical schedule via Guidebook and detailed information elsewhere in this guide. Attendees should also refer to the separate insert in their registration materials for an overview of the technical poster presentations.

Poster / Demo sessions will include light suppers and complimentary soft drinks. A no-host bar will also be available. Admittance to the reception is included in the AAAI-17 registration. A $65.00 per person fee ($15.00 for children over the age of 12) will be charged for guests and other nontechnical conference registrants per night.

AAAI Game Night

Tuesday, February 7, 8:00 – 10:00 PM
Plaza Room, Lobby Level

Come spend an evening playing games with other AAAI participants at the fifth annual AAAI Games Night. There will be organized AI-themed games. Bring your own games to play afterwards.

For additional social events specifically designed for students, please see page 10.

AI Video Competition

Video Loop: Monday – Wednesday, February 6–8, East Lounge, Ballroom Level
Awards Ceremony: Tuesday, February 7, 6:00 – 6:30 PM, Continental 4-6, Ballroom Level

The Eleventh AI Video Competition (aivideocompetition.org) communicates to the world the fun of pursuing research in AI, and illustrates the impact of some of our applications. Submitters were asked to create narrated videos of 1–5 minutes in length. The submissions were reviewed by an international program committee, led by cochairs Charles Isbell (Georgia Tech) and Scott Niekum (University of Texas at Austin). Awards will be presented in the following categories: Best Video, Best Student Video, and People's Choice. Authors of award-winning videos will be presented with "Shakey" trophies that honor SRI's Shakey robot and its pioneering video. Award winning videos will be screened at the ceremony. AAAI gratefully acknowledges the *AI Journal* Review Board for its donation and the Bristol Robotics Laboratory for help with the manufacturing of the awards.

Special Meetings

AAAI Community Meeting / Annual Business Meeting

Moderator: Subbarao Kambhampati, AAAI President

AAAI welcomes all conference attendees to the AAAI community meeting, which will also serve as the AAAI Annual Business Meeting. Please join us as we explore current initiatives, and help chart the future course and objectives of AAAI. The meeting will be held Wednesday, February 8, 5:10 – 6:00 PM in Continental Ballroom 4-6.

AAAI Conference Committee Meeting

The AAAI Conference Committee Meeting will be held Tuesday, February 7, 7:30 – 8:30 AM, Lombard Room, Sixth Floor.

AAAI Executive Council Meeting

The AAAI Executive Council Meeting will be held Sunday, February 5, 9:00 AM – 2:00 PM, Lombard Room, Sixth Floor. Continental breakfast will be available at 8:30 am.

AAAI Fellows Recognition Dinner

The AAAI Fellows Recognition Dinner will be held Monday, February 6, 7:00 – 10:00 PM, Vista Room, Forty-fifth Level, Hilton San Francisco Union Square.

AAAI Publications Committee Meeting

The AAAI Publications Committee Meeting will be held Tuesday, February 7, 12:30 – 2:00 PM, Lombard Room, Sixth Floor.

AI Magazine Editorial Board Meeting

The *AI Magazine* Editorial Board Meeting will be held Monday, February 6, 12:30 – 2:00 PM, Lombard Room, Sixth Floor.

Student Activities

In cooperation with and with support from AI Journal, AAAI is pleased to offer the following student activities designed to enrich the student experience at the AAAI conference. For complete information about Student Programs at AAAI-17, please see www.indiana.edu/~iustarai/ index_aaai.html

Student Welcome Reception

All students are welcome at the AAAI-17 Student Welcome Reception. Light refreshments will be served.

Saturday, February 4, 6:00 – 7:30 PM, Continental Ballroom 6

The welcome reception is sponsored by USC/Information Sciences Institute.

Dining/Group Meals

A student coordinator will be organizing informal opportunities for students to eat together for lunches and dinners at various casual restaurants near the conference venue. Students will be expected to pay for their own meals. Some groups will be available based on research or career interests, while others will be general groups.

AAAI/SIGAI Doctoral Consortium

Friday and Saturday, February 4–5, Union Square 23-24

The Twenty-Second AAAI/SIGAI Doctoral Consortium provides an opportunity for a group of Ph.D. students to discuss and explore their research interests and career objectives in an interdisciplinary workshop together with a panel of established researchers. The seventeen students accepted to participate in this program will also participate in the AAAI-17 evening Poster / Demo Session 1 on Monday, February 6.

All interested AAAI-17 student registrants are invited to observe the presentations and participate in discussions at the workshop.

AAAI and SIGAI gratefully acknowledge the generous grants from AI Journal, the National Science Foundation, David E. Smith, and David Aha, which make this program possible. The schedule is available at home.earthlink.net/~dwaha/research/meetings/aaai17-dc/

Student-Accessible Tutorials

Friday – Saturday, February 4–5

AAAI will feature a number of tutorials that are very well suited for students who are new to a PhD program or new to AI research in general. The presenters of the following tutorials are putting particular work into making their tutorials accessible to students with limited backgrounds in AI. Please see page 11 for locations and times.

SA1: Learn to Write a Scientific Paper of the Future: Reproducible Research, Open Science, and Digital Scholarship

SP1: Recent Advances in Distributed Machine Learning

SP2: Statistical Relational Artificial Intelligence: Logic, Probability and Computation

SP6: Social Data Bias in Machine Learning: Impact, Evaluation, and Correction

SUP1: Interactive Machine Learning: From Classifiers to Robotics

AAAI Fellow / Student Lunches

Monday – Wednesday, February 6–8, 12:30 – 2:00 PM

First held in 2006, this program provides an opportunity for a small number of students to chat with a AAAI Fellow over an informal lunch during the conference. Sign-up sheets are available at the onsite registration desk in the East Lounge on the Ballroom Level. Students should meet their designated Fellow in onsite registration on their assigned day.

AAAI/SIGAI AI Job Fair and Electronic Bulletin Board

Sunday, February 5, 9:00 AM – 5:05 PM

Tabletop exhibits: Grand Ballroom A, Grand Ballroom Level
10-Minute Company Presentations: Continental Ballroom 6, Ballroom Level

The AAAI and ACM SIGAI AI Job Fair will provide an opportunity for a host of companies and institutions to highlight their current job opportunities. The short presentations will be followed by a meet-and-greet session. Over 35 employers will be participating. Be sure to stop here before heading to the evening poster and demo session. For a list of participating companies and a schedule of presentations, please see page 16. AAAI-17 will also continue to host the electronic job bulletin board in the East Lounge on the Ballroom Level. Companies with job opportunities will provide ads to populate an ongoing kiosk display.

Breakfast with Champions: A Women's Mentoring Event

Tuesday, February 7, 7:30 – 8:45 AM, Vista, 45th Floor

AAAI is holding the third annual women's mentoring event for women students to meet with senior women in computer science and/or artificial intelligence. Particiaption has been expanded this year to include junior women professionals. Preregistration was required and admittance is by ticket only. Sponsored by *AI Journal* and AAAI.

Student Abstract and Poster Program

Tuesday and Wednesday, February 7–8

Oral Presentations (Tuesday): 10:00 – 11:00 AM, Continental Ballroom 9
Poster Presentations: 6:30 – 8:30 PM, Imperial Ballroom

This program provides a forum in which students can present and discuss their work during its early stages, meet some of their peers who have related interests, and introduce themselves to more senior members of the field. Students who have been selected as part of a group of 19 finalists to compete for the "Best Student 3-Minute Presentation" will present their work in 3-minute spotlight talks in parallel with other technical sessions. All students will present posters, split between Tuesday and Wednesday evening. An award will also be presented for the "Best Student Poster." For a list of posters each night, please see the online schedule and the AAAI-17 Poster/Demo Program Guide.

AAAI-17 Games Night

Tuesday, February 7, 8:00 – 10:00 PM, Plaza Room

Come spend an evening playing games with other AAAI participants at the fifth annual AAAI Games Night. There will be organized AI-themed games. Bring your own games to play afterwards.

Tutorial Forum

AAAI-17 technical registrants may attend 4–5 consecutive tutorials. Tutorials are 4 hours unless noted otherwise. Tutorial coffee breaks will be held in the Golden Gate Ballroom main foyer.

Saturday, February 4

9:00 AM – 1:00 PM

SA1: Learn to Write a Scientific Paper of the Future: Reproducible Research, Open Science, and Digital Scholarship
Yolanda Gil, Daniel Garijo, Gail Peretsman-Clement
Golden Gate 6-8

SA2: Risk-Averse Decision Making and Control
Marek Petrik, Mohammad Ghavamzadeh
Continental 1-3

SA3: Rulelog: Deep KRR for Cognitive Computing
Benjamin Grosof, Michael Kifer, Paul Fodor
Golden Gate 3-4

SA4: IoT Big Data Stream Mining
Gianmarco De Francisci Morales, Albert Bifet, Latifur Khan, Joao Gama, Wei Fan
Continental 7-9

SA5: Computer Poker
Sam Ganzfried, Johannes Heinrich, Kevin Waugh
Golden Gate 1-2

2:00 PM – 6:00 PM

SP1: Recent Advances in Distributed Machine Learning
Wei Chen, Taifeng Wang, Tie-Yan Liu
Continental 1-3

SP2: Statistical Relational Artificial Intelligence: Logic, Probability and Computation
Luc De Raedt, David Poole, Kristian Kersting, Sriraam Natarajan
Continental 7-9

SP3: AI Planning for Robotics
Michael Cashmore, Daniele Magazzeni
Golden Gate 6-8

SP4: Modeling and Solving AI Problems in Picat
Roman Barták, Neng-Fa Zhou
Golden Gate 1-2

2:00 PM – 3:45 PM

SP5: AI for Data-Driven Decisions in Water Management
Biplav Srivastava, Sandeep S. Sandha
Golden Gate 3-4

4:15 PM – 6:00 PM

SP6: Social Data Bias in Machine Learning: Impact, Evaluation, and Correction
Huan Liu, Fred Morstatter
Golden Gate 3-4

Sunday, February 5

9:00 AM – 1:00 PM

SUA1: Deep Learning Implementations and Frameworks
Seiya Tokui, Kenta Oono, Atsunori Kanemura
Continental 1-3

SUA2: Learning Bayesian Networks for Complex Relational Data
Oliver Schulte, Ted Kirkpatrick
Continental 7-9

SUA3: Causal Inference and the Data-Fusion Problem
Elias Barenboim
Golden Gate 6-8

SUA4: Eliciting High-Quality Information
Boi Faltings, Goran Radanovic
Golden Gate 5

SUA5: Discrete Sampling and Integration for the AI Practitioner
Supratik Chakraborty, Kuldeep S. Meel, Moshe Y. Vardi
Golden Gate 3-4

2:00 PM – 6:00 PM

SUP1: Interactive Machine Learning: From Classifiers to Robotics
Matthew E. Taylor, Bradley H. Hayes, Ece Kamar
Continental 1-3

SUP2: Knowledge Graph Construction from Text
Jay Pujara, Sameer Singh, Bhavana Dalvi
Continental 7-9

SUP3: Introduction to MultiAgent Path Finding
Glenn Wagner, Ariel Felner, Sven Koenig
Golden Gate 5

SUP4: Predicting Human Decision-Making: Tools of the Trade
Ariel Rosenfeld, Sarit Kraus
Golden Gate 3-4

2:00 PM – 3:45 PM

SUP5: Neuroevolution Reinforcement Learning
Risto Miikkulainen
Golden Gate 6-8

4:15 PM – 6:00 PM

SUP6: Artificial Intelligence and Video Games
Julian Togelius
Golden Gate 6-8

Workshop Program

Registration for a workshop requires a supplemental fee for AAAI-17 technical registrants. Individuals who do not wish to participate in any other AAAI-17 programs or events may elect the workshop only registration fee. Electronic copies of workshop papers were circulated to preregistrants, and will be available in the AAAI Digital Library post-conference. Workshop coffee breaks will be held in Union Square 19-20.

Saturday, February 4

W1: AI and OR for Social Good
9:00 AM – 5:25 PM, Union Square 17-18

W2: AI, Ethics and Society
9:00 AM – 5:50 PM, Union Square 21

W3: AI for Connected and Automated Vehicles
9:00 AM – 5:30 PM, Union Square 13

W4: Artificial Intelligence for Cyber Security
9:00 AM – 5:00 PM, Union Square 15-16

W7: Crowdsourcing, Deep Learning and Artificial Intelligence Agents
9:00 AM – 6:30 PM, Union Square 22

W10: Joint Workshop on Health Intelligence
(two-day workshop)
9:15 AM – 5:20 PM, Union Square 5-6

W11: Human-Aware Artificial Intelligence
9:00 AM – 5:00 PM, Union Square 3-4

W12: Human-Machine Collaborative Learning
9:00 AM – 5:30 PM, Union Square 25

W17: What's Next for AI in Games?
9:00 AM – 5:00 PM, Union Square 1-2

Sunday, February 5

W5: AI for Smart Grids and Buildings
8:45 AM – 4:30 PM, Union Square 21

W6: Computer Poker and Imperfect Information Games
9:00 AM – 5:00 PM, Union Square 25

W8: Developing Artificial Intelligence Startup Companies
TBD, Union Square 17-18

W9: Distributed Machine Learning
8:30 AM – 5:30 PM, Union Square 1-2

W10: Joint Workshop on Health Intelligence
(two-day workshop)
9:30 AM – 5:00 PM, Union Square 5-6

W13: Increasing Diversity in AI
8:45 AM – 5:45 PM, Union Square 13

W14: Knowledge-Based Techniques for Problem Solving and Reasoning
8:50 AM – 5:30 PM, Union Square 3-4

W15: Plan, Activity, and Intent Recognition
TBD, Union Square 22

W16: Symbolic Inference and Optimization
8:45 AM – 5:00 PM, Union Square 15-16

The Seventh Symposium on Educational Advances in Artificial Intelligence

Sunday – Monday, February 5–6, Golden Gate 1-2, Lobby Level

Registration for EAAI-17 is included in the AAAI-17 technical program registration. Individuals who do not wish to participate in any other AAAI-17 programs or events may elect the EAAI-17 only registration fee. The proceedings of the EAAI program are included in the full AAAI-17 proceedings, and electronic copies of all papers are available via the online schedule (Guidebook). EAAI posters will also be presented Monday, February 6 in the AAAI-17 Poster / Demo Session in the Imperial Ballroom. Accepted paper and Model AI Assignment talks will be 15 minutes each; NSG talks will be 8 minutes each. Poster spotlight talks will be 4 minutes each. For full information on invited talks and panels, please see pages 6–7.

Sunday, February 5

9:00 AM – 9:05 AM

EAAI-17 Welcome

Sven Koenig and Eric Eaton

9:05 AM – 10:05 AM

EAAI-17 Invited Talk

Invited Talk
Ayanna Howard

10:05 AM – 10:30 AM

EAAI-17 Accepted Papers I: Main Track

Recovering Concept Prerequisite Relations from University Course Dependencies
Chen Liang, Jianbo Ye, Zhaohui Wu, Bart Pursel, C. Lee Giles

Poster Spotlight: AI Projects for Computer Science Capstone Classes
Matthew E. Taylor, Sakire Arslan Ay

Poster Spotlight: Online SPARC for Drawing and Animation
Elias Marcopulos, Maede Rayatidamavandi, Crisel Suarez, Yuanlin Zhang

10:30 AM – 11:00 AM

Coffee Break

11:00 AM – 12:10 PM

EAAI-17 Model AI Assignments I

An Introduction to Monte Carlo Techniques in AI – Part II
Todd Neller

Organic Pathfinding
Joshua Eckroth

Implementing a Hidden Markov Model Toolkit
Sravana Reddy

Visual Servoing
Ariel Anders, Sertac Karaman

Poster Spotlight: Application for AI-OCR Module: Auto Detection of Emails/Letter Images
Kelsey Fargas, Bingjie Zhou, Elizabeth Staruk, Sheila Tejada

Poster Spotlight: Exploring Artificial Intelligence Through Image Recognition
Kelsey Fargas, Bingjie Zhou, Elizabeth Staruk, Sheila Tejada

12:10 PM – 2:15 PM

Lunch Break

2:15 PM – 2:30 PM

EAAI-17 Accepted Papers II: REU Track

A Summer Research Experience in Robotics
Cindy M. Grimm, Alicia Lyman-Holt, William D. Smart

2:30 PM – 3:30 PM

EAAI-17 Panel

NSF Research Experience for Undergraduates (REU) Sites
Panelists: Georgios Anagnostopoulos, Stephanie E. August, Zach Dodds and Bill Smart. Moderated by Eric Eaton.

3:30 PM – 4:00 PM

Coffee Break

4:00 PM – 4:50 PM

EAAI-17 Not-So-Grand (NSG) Challenge I

Cornhole: A Widely-Accessible AI Robotics Task
Nate Derbinsky, Tyler M. Frasca

A Monte Carlo Localization Assignment Using a Neato Vacuum with ROS
Zuozhi Yang, Todd W. Neller

An Image Wherever You Look! Making Vision Just Another Sensor for AI/Robotics Projects
Andy Zhang, John Lee, Ciante Jones, Zachary Dodds

Open-Ended Robotics Exploration Projects for Budding Researchers
David R. Musicant, Abha Laddha, Tom Choi

Creating Serious Robots that Improve Society
Susan P. Imberman, Jean McManus, Gina Otts

Dude, Where's My Robot? A Localization Challenge for Undergraduate Robotics
Paul Ruvolo

4:50 PM – 5:00 PM

Short Break

5:00 PM – 5:50 PM

EAAI-17 Blue Sky Ideas in AI Education from the New and Future AI Educator Program

Bridging Across Disciplines
Claudia Schulz

Student-Centric Discovery
Francesco Maurelli

AI in K-12 Education
John Lee

The Role of Ethics in AI Education
Joshua Eckroth

AI Education through Real-World Problems
Mark Crowley

Making AI Concepts More Accessible
Richard G. Freedman

Rethinking the AI Ethics Education Context
Rogelio E. Cardona-Rivera

Lifelong Kindergarten for AI
Tiago Machado

Training Students in AI Ethics
Tom Williams

5:50 PM – 6:30 PM

EAAI-17 Demos

Open Demos and Hands-on Explorations
This session will include open demonstrations by EAAI researchers.

Monday, February 6

10:00 AM – 11:00 AM

EAAI-17 Panel

AI Ethics Education
Panelists: Judy Goldsmith, Ben Kuipers and Illah Nourbakhsh. Moderated by Sven Koenig.

11:00 AM – 11:30 AM

Coffee Break

11:30 AM – 12:15 PM

EAAI-17 Model AI Assignments II

An Introduction to Behavior-Based Robotics
Joshua Ziegler, Jason Bindewald, Gilbert Peterson

Machine Learning for Everyone: Introduction to Classification and Clustering
Thomas Way, Paula Matuszek, Lillian Cassel, Mary-Angela Papalaskari, Carol Weiss

Git Planner
Joshua Eckroth

12:15 PM – 12:30 PM

EAAI-17 Accepted Papers III: AI for Education and Outreach

ARTY: Fueling Creativity through Art, Robotics and Technology for Youth
Debra T. Burhans, Karthik Dantu

12:30 PM – 2:00 PM

Lunch

2:00 PM – 2:50 PM

AAAI-17/EAAI-17 Outstanding Educator Award Talk

Sebastian Thrun

2:50 PM – 3:30 PM

EAAI-17 Panel

AI for Education
Panelists: Yolanda Gil, Ayanna Howard, Peter Norvig, Mehran Sahami, and Sebastian Thrun. Moderated by Sheila Tejada.

Conference Schedule

Included in this program is the full EAAI schedule (page 12, and the technical session locations for AAAI/IAAI (pages 17–21. Please note that EAAI overlaps AAAI/IAAI on Monday, February 6. The full list of AAAI and IAAI papers is available in the online schedule and via the AAAI-17 Guidebook app. Limited hard copies of the list are available in onsite registration for individuals who do not have online access.

Sponsor and Exhibit Program

Monday – Wednesday, February 6 – 8,
Golden Gate Foyer Windowside, Lobby Level

The AAAI-17 sponsor and exhibit program provides an opportunity for AI-related companies and publishers to support the goals of AAAI and reach out to AI professionals. In some cases, sponsors have elected to exhibit at AAAI-17. AAAI thanks all the sponsors and exhibitors for their participation at AAAI-17!

Exhibit Hours

Monday, February 6:	10:00 AM – 5:00 PM
Tuesday, February 7:	10:00 AM – 5:00 PM
Wednesday, February 8:	10:00 AM – 4:00 PM

Exhibitors / Sponsors

Sponsor

ACM/SIGAI (Sponsor)

http://sigai.acm.org

Contact: Sven Koenig

ACM SIGAI brings together academic and industrial researchers, practitioners, software developers, end users, and students who are interested in AI. It promotes and supports the growth and application of AI principles and techniques throughout computing, sponsors or co-sponsors AI-related conferences, organizes the Career Network and Conference for early-stage AI researchers, sponsors recognized AI awards, supports AI journals, provides scholarships to its student members to attend conferences, and promotes AI education and publications through various forums and the ACM digital library.

Exhibitor/Sponsor

Adobe Research

https://research.adobe.com/

Adobe is the global leader in digital marketing and digital media solutions. Our tools and services allow our customers to create groundbreaking digital content, deploy it across media and devices, measure and optimize it over time and achieve greater business success. We help our customers make, manage, measure and monetize their content across every channel and screen.

Sponsor

AI Journal

http://ijcai.org/aijd.php

Artificial Intelligence Journal (AIJ) is one of the longest established and most respected journals in AI, and since it was founded in 1970, it has published many of the key papers in the field. The operation of the Editorial Board is supported financially through an arrangement with AIJ's publisher, Elsevier. The editorial board of *Artificial Intelligence* is now in the unique position of being able to make available substantial funds, of the order of EUR 240,000 per annum to support the promotion and dissemination of AI research.

Exhibitor

AI Topics

http://aaai.org/aitopics

The Premier Source of Information about AI.

- Stop by the AITopics booth to pick up a luggage tag
- Sign up for the free AI-Alert service for weekly summaries of news stories that have mentioned AI
- See what AITopics can provide for your classroom instruction or term papers
- Suggest improvements
- Review our list of classic papers to add your favorites

Exhibitor/Sponsor

Amazon

http://amazon.jobs

Contact: aaai2017@amazon.com

Amazon strives to be Earth's most customer-centric company where people can find and discover virtually anything they want to buy online. The world's brightest technology minds come to Amazon.com to research and develop technology that improves the lives of shoppers, sellers and developers.

Exhibitor/Sponsor

Baidu

https://www.baidu.com

Baidu, Inc. is the leading Chinese language Internet search provider. As a technology- based media company, Baidu aims to provide the best and most equitable way for people to find they're looking for. In addition to serving individual Internet search users, Baidu provides an effective platform for businesses to reach potential customers. Baidu's ADSs trade on the NASDAQ Global Select Market under the symbol "BIDU." Currently, ten ADSs represent one Class A ordinary share.

Exhibitor/Sponsor

Beijing Bytedance Technology Co., Ltd

http://Toutiao.com

Contact: wangxiaodong@bytedance.com

Founded in March 2012, Beijing ByteDance Technology Co.Ltd is a global leading mobile Internet company based on artificial intelligence technology. Its flagship product, Toutiao, is a news and information distribution platform that makes personalized content recommendation. By December 2016, Toutiao serves 70 million daily active users. To date, more than 350,000 individuals and organizations have registered Toutiaohao, a self-publishing content platform within the app. Toutiao Lab, a research group in Bytedance, aims at developing edge-cutting AI technology. Its main research areas include machine learning, natural language processing and vision understanding.

Exhibitor

Cambridge University Press

www.cambridge.org/us/academic

Contact: Kamini Ramphal

Cambridge's publishing in books and journals combines state-of-the-art content with the highest standards of scholarship, writing and production. Visit our stand to browse new titles, available at a 20% discount, and to pick up sample issues of our journals. Visit our website to see everything we do.

Exhibitor/Sponsor

Capital One

https://www.capitalonecareers.com/

Contact: Erik.Mueller@capitalone.com

Capital One is hiring AI professionals. At Capital One, we're building a leading information-based technology company. Still founder-led by Chairman and Chief Executive Officer Richard Fairbank, Capital One is on a mission to help our customers succeed by bringing ingenuity, simplicity, and humanity to banking. We measure our efforts by the success our customers enjoy and the advocacy they exhibit. We are succeeding because they are succeeding.

Exhibitor/Sponsor

Cheetah Mobile (猎豹移动)

http://www.cmcm.com

Business Contact: contact_ibd@cmcm.com

Career Contact: usjobs@cmcm.com

Cheetah Mobile (NYSE: CMCM) is a leading, profitable global mobile internet company founded and based in Beijing, China. Now we have 22 overseas offices in 17 countries and have recently built our dual HQ in Palo Alto, California. Our mission critical products Clean Master, CM Security, CM Browser, and Battery Doctor are trusted by more than 600 million monthly active users. We aim to use AI and deep learning to provide personalized contents to our mobile app users worldwide with the mission to Make the World Smarter.

Exhibitor

Clearpath Robotics

http://www.clearpathrobotics.com

Contact: Christopher Bogdon, Marketing and Communications Specialist

Clearpath Robotics, a division of Clearpath, is a global leader in unmanned vehicle robotics for research and development, and provides hardware, software and services to enable self-driving vehicle development, deployment, and operation. Clearpath works with over 500 of the world's most innovative brands in over 40 countries, serving markets that span industrial materials handling, mining, military, agriculture, aerospace, and academia. Visit Clearpath Robotics at www.clearpathrobotics.com.

Sponsor

CRA Computing Community Consortium

http://cra.org/ccc/visioning/blue-sky/

The mission of the Computing Research Association's Computing Community Consortium (CCC) is to catalyze the computing research community and enable the pursuit of innovative, high-impact research. CCC conducts activities that strengthen the research community, articulate compelling research visions, and align those visions with pressing national and global challenges. CCC communicates the importance of those visions to policymakers, government and industry stakeholders, the public, and the research community itself.

Sponsor

Facebook

https://research.fb.com/

Giving people the power to share and connect requires constant innovation. At Facebook, research permeates everything we do. We believe the most interesting research questions are derived from real world problems. Working on cutting edge research with a practical focus, we push product boundaries every day. At the same time, we are publishing papers, giving talks, attending and hosting conferences, and collaborating with the academic community.

Exhibitor / Sponsor

IBM Research

http://www.research.ibm.com

IBM Research is a research and development organization consisting of twelve laboratories on six continents. IBM has led innovation in all disciplines of AI, culminating in intelligent agents like Watson, the question-answering computing system that defeated human world champions on the Jeopardy! television quiz show. As part of IBM's Cognitive Business initiative, IBM Research is continually augmenting Watson's cognitive capabilities, thereby enabling real-world transformations in diverse domains. IBM Research is home to 5 Nobel Laureates, 10 US National Medals of Technology, 5 US National Medals of Science, 6 Turing Awards, and 13 Inductees in the National Inventors Hall of Fame.

Exhibitor

iPIN Inc.

http://www.ipin.com/

Contact: (86-755) 6668-5480

iPIN – Better Decision. iPIN specialises in cognitive technology that can expand our possibility to tackle challenges and difficulties. We are now working with the best talents and businesses in the field across education, HR, legal, financial services, architecture. We are looking for research scientists in Machine learning, text mining and NLP. We accept only candidates with good theoretical knowledge and hands-on experiences.

Exhibitor/Sponsor

Lionbridge/Global Services for Machine Intelligence

http://www.lionbridge.com/solutions/global-services-for-machine-intelligence

Contact: gsmi@lionbridge.com

Organizations are developing intelligent systems to enhance human experiences anywhere, whether in the home, car or at work. Developers of these conversational interfaces to virtual assistants and other products require massive amounts of high-quality training data and actionable user experience feedback on a global scale to make their solutions more natural, accurate, relevant and intuitive. This is a significant challenge that Lionbridge solves with linguistic and data operations that generate high-quality global data to train the systems. We combine that with global user experience testing, gathering feedback to continually improve on the human experience with these new intelligent systems. Lionbridge provides the human component to complement and augment our customers' AI efforts by providing scalable and complete global coverage. As customers move quickly to solve data problems, they can rely on Lionbridge to offload the program management and operational requirements to execute solutions. We align fully with our clients' organizational structures, processes, and systems and have over a decade of exceptional performance working on the most sensitive client programs.

Exhibitor / Sponsor

Microsoft / Microsoft Research

http://www.microsoft.com; www.microsoft.com/research

Contact: evelynev@microsoft.com

At Microsoft, we aim to empower every person and every organization on the planet to achieve more. We care deeply about having a global perspective and making a difference in lives and organizations in all corners of the planet. This involves playing a small part in the most fundamental of human activities: Creating tools that enable each of us along our journey to become something more. Our mission is grounded in both the world in which we live and the future we strive to create. Today, we live in a mobile-first, cloud-first world, and we aim to enable our customers to thrive in this world.

Exhibitor

Morgan & Claypool Publishers

http://www.morganclaypool.com

Contact: info@morganclaypool.com

Morgan & Claypool publishes the *Synthesis Lectures on Artificial Intelligence and Machine Learning,* edited by Ronald Brachman and Peter Stone. Synthesis lectures are 75 to 200 page electronic documents presenting key topics written by prominent contributors for an audience of students, researchers, and developers. Morgan & Claypool offers content in a wide variety of options including print, individual eBooks (PDF, ePub), and scalable digital libraries for institutions. New titles in the series include *Lifelong Machine Learning* by Zhiyuan Chen and Bing Liu and *Statistical Relational Artificial Intelligence: Logic, Probability, and Computation* by Luc De Raedt, Kristian Kersting, Sriraam Natarajan, and David Poole.

Exhibitor

The MIT Press

http://mitpress.mit.edu

Contact: Kathleen Hensley, 617-258-5764, khensley@mit.edu

The MIT Press is the only university press in the US whose list is based in science and technology. We publish about 200 new books a year and over 30 journals. We are committed to challenging, creative, attractive, and affordable content.

Exhibitor

Northrop Grumman

http://www.northropgrumman.com

Discover more about our careers at: careers.northropgrumman.com

Northrop Grumman is a leading global security company providing innovative systems, products and solutions to government and commercial customers worldwide, offering an extraordinary portfolio of capabilities and technologies for applications from undersea to outer space and into cyberspace.

Exhibitor/Sponsor

Tencent

http://www.tencent.com/en-us/index.shtml

Tencent, China's largest social networking company, the world's fifth-largest internet company in market capitalization, operates a range of online and mobile services, including WeChat (846M Monthly Active Users, updated in Nov.2016) and QQ (899M MAU). Tencent's hundreds of popular products keep generating massive data which boost the research works on advanced AI technologies, and it has built multiple R&D labs/departments focusing on, but not limited to, machine learning, computer vision, speech recognition and natural language processing. Welcome to visit Tencent to know more about Tencent AI Lab, WeChat Pattern Recognition Center, YouTu Lab and other Tencent AI teams.

Registration

Conference registration is located in the East Lounge on the ballroom level of the Hilton San Francisco Union Square beginning Saturday, February 4. Registration hours are:

Saturday, February 4:	7:30 AM – 5:00 PM
Sunday, February 5:	7:30 AM – 5:00 PM
Monday, February 6:	8:00 AM – 5:00 PM
Tuesday, February 7:	8:30 AM – 5:00 PM
Wednesday, February 8:	8:30 AM – 5:00 PM
Thursday, February 9:	8:30 AM – 11:00 AM

AAAI attendees are required to register via the online system at www.regonline.com/aaai17 before proceeding to onsite registration to pick up their badges. If an attendee is unable to access the online form, they should proceed directly to onsite registration to complete an onsite form. Attendees who do not use the online system will be required to pay by check or cash onsite. For a list of registration rates, please see aaai.org/AAAI17 or visit onsite registration.

AAAI-17 Meeting Space Wireless Password

aaai2017

Sponsor

University of Southern California / Information Sciences Institute

http://www.isi.edu/

ISI is home to more than one hundred and thirty researchers and PhD students in Artificial Intelligence. ISI is part of USC's School of Engineering, currently ranked in the top ten in the country due in part to ISI's standing. AI research areas include natural language processing, information integration, complex networks, human behavior, semantic web, and knowledge technologies.

Exhibitor/Sponsor

Shanghai Xiaoi Robot Co., Ltd

http://www.xiaoi.com/

Contact: +86 21 39518811, yuzi.zhou@xiaoi.com

Shanghai Xiaoi Robot Technology Co.,Ltd (Xiaoi) is a world-leading smart machine technology supplier and platform operator. It has set up a complete framework which includes semantic understanding, knowledge representation, learning system, inference and prediction, upper application, and Bot development architecture, and has the widest bots applications globally. Xiaoi provides services to ICBC, CCB, China Mobile, Huawei, SF Express, GE, Wanda Group, as well as hundreds of large and medium enterprises, government branches, thousands of SMEs and developers. Its users have exceeded 500 million.

AAAI/ACM SIGAI AI Job Fair

Sunday, February 5, 2017
9:00 AM – 5:05 PM
http://movingai.com/AAAI-JOB17

Admittance to the AAAI/ACM SIGAI AI Job Fair is open to AAAI-17 registrants, and AAAI members and affiliates only. A small onsite fee will be required onsite.

Tabletop exhibits: Grand Ballroom A, Grand Ballroom Level

10-Minute Company Presentations: Continental Ballroom 6, Ballroom Level

The AAAI and ACM SIGAI AI Job Fair will provide an opportunity for a host of companies and institutions to highlight their current job opportunities. The short presentations will be followed by a meet-and-greet session. A current list of the participating employers is included below.

ALICE (Artificial Intelligence Construction Engineering)
Allen Institute for Artificial Intelligence
Amazon
ASAPP
BMW Group
ByteDance
Capital One
Cheetah Mobile
Cogitai
Disney Research
Dropbox
Facebook
Ford Motor Company
General Motors R&D
IBM Research
iPIN
Kyndi
Kyushi University
Lawrence Livermore National Laboratory
Maluuba Research
Mercedes Benz
Nanyang Technological University
National University of Singapore
Northrop Grumman
Optimized Markets
PROWLER.io
Rocket Fuel
SAIC USA
Samsung Electronics
Siemens
Singapore Management University
SoarTech
Television Content Analytics
Tencent
Tinder
United Technologies Research Center
University of Kentucky
USC Information Sciences Institute

Session 1	**9:00 – 9:55 AM**
BMW Group	9:00 AM
Ford Motor Company	9:11 AM
General Motors	9:22 AM
Mercedes Benz Research and Development	9:33 AM
SAIC USA Inc.	9:44 AM
Session 2:	**10:00 – 10:45 AM**
Cogitai, Inc.	10:00 AM
Kyndi	10:11 AM
Maluuba Inc.	10:22 AM
PROWLER.io	10:33 AM
Session 3:	**11:05 AM – 12:00 PM**
ASAPP, Inc	11:05 AM
Capital One	11:16 AM
Cheetah Mobile	11:27 AM
Optimized Markets, Inc.	11:38 AM
Rocket Fuel Inc.	11:49 AM
Session 4:	**1:00 – 1:55 PM**
ALICE Technologies	1:00 PM
Northrop Grumman	1:11 PM
Siemens Medical Solutions USA, Inc.	1:22 PM
Soar Technology	1:33 PM
United Technologies Research Center	1:44 PM
Session 5:	**2:00 – 3:20 PM**
Disney Research	2:00 PM
Kyushu University	2:11 PM
Lawrence Livermore National Laboratory	2:22 PM
Samsung Electronics / Software Center AI team	2:33 PM
Singapore Management University	2:44 PM
University of Kentucky, Computer Science Dept.	2:55 PM
USC/ISI	3:06 PM
Session 6:	**4:00 – 5:05 PM**
Amazon	4:00 PM
Bytedance	4:11 PM
Dropbox	4:22 PM
IBM Research	4:33 PM
iPIN	4:44 PM
Tencent	4:55 PM

General Information

ADA Accessibility

The Hilton San Francisco Union Square Hotel is an Americans with Disabilities Act (ADA) compliant facility. The facility design includes accessible parking and entrances, wheelchair ramps, multiple elevators, automatic doors and accessible restroom facilities.

Admission

Each conference attendee will receive a name badge upon registration. This badge is required for admittance to the technical, IAAI, EAAI, AI in Practice, AI Job Fair, tutorial, and workshop programs, as well as all social events. The Hilton San Francisco Union Square Hotel is a smoke-free facility, and smoking is strictly forbidden in all meeting and sleeping rooms, as well as public areas.

Business Center (UPS Store)

A FedEx Office (business center) is located on the lobby level of the Hilton San Francisco near the Tower 2 elevators. The center is staffed 7:00 AM – 6:00 PM, weekdays, and 9:00 AM – 5:00 PM, weekends. Self service is available 24 hours with a room key. Package Express is located in Tower 3 on the garage level, and is staffed 7:00 AM – 5:00 PM daily.

Career Information

A bulletin board for job opportunities in the artificial intelligence industry will be made available in the registration area. Attendees are welcome to post job descriptions of openings at their company or institution. Information about the AAAI / ACM SIGAI AI Job Bulletin Board is available on page 10.

Coffee Shops

AAAI-17 will serve coffee at the mid-morning and afternoon breaks. For early morning coffee, please visit Herb n' Kitchen in main lobby, Starbucks on O'Farrell and Cyril Magnin, Starbucks on O'Farrell and Powell, or Daniels's Café on Ellis St and Cyril Magnin.

Family Friendly Initiative

Mason Room, Sixth Floor

AAAI has arranged for a room (Monday - Thursday) for young family needs and for families to relax between sessions. We ask that you be respectful of others' privacy, as this room may be used by nursing mothers. The room locks from the inside when being used privately. In addition, we welcome young children (under 12) at all AAAI social events, such as the reception or poster/demo receptions, for no additional charge. If your child would like a souvenir of attendance at the conference, please come by registration for a badge!

Groceries

Bristol Farms is located on the basement level of the Westfield Mall, 865 Market Street.

Hotel Parking

Hotel overnight parking is $50+tax for self-parking, $62+tax for valet. There are several additional garages nearby, including one on Ellis Street between Mason and Taylor (the back entrance of the hotel) and one on Mason and O'Farrell Streets.

Hotel Restaurants

Poached: Serves breakfast daily from 6:00 AM – 11:00 AM.
Urban Tavern: Serves dinner daily from 5:00 – 10:00 PM.
Cityscape: Lounge serving cocktails and small bites from 5:00 – 11:00 PM.
Herb n' Kitchen: Grab and go market serving hot meals daily from 6:00 AM – midnight. Room delivery is available from 6:00 AM – 10:00 AM and 6:00 PM – 10:00 PM.

Internet Access

AAAI-17 has arranged for complimentary wifi access for AAAI-17 registrants in meeting areas. AAAI-17 attendees staying at the Hilton San Francisco Union Square will also enjoy complimentary wifi access in their sleeping rooms.

List of Attendees

A list of preregistered attendees of the conference will be available for review at the AAAI Desk in the registration area. *Attendee lists will not be distributed.*

Pharmacy

Walgreens is located at 135 Powell Street.

Printed Materials

Display tables for the distribution of promotional and informational materials of interest to conference attendees will be located in the registration area.

Proceedings/Technical Reports

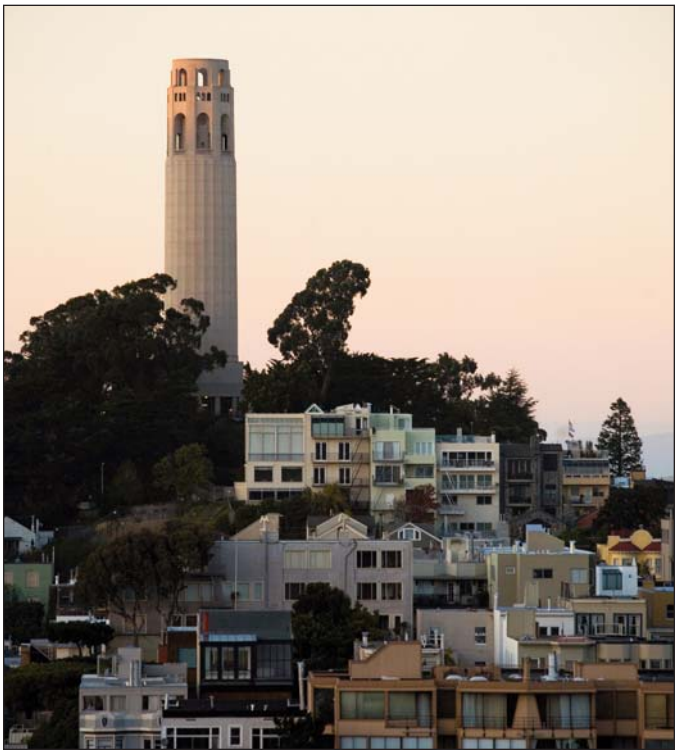
AAAI proceedings will be available after the conference in electronic format only via the AAAI Digital Library. Preliminary PDFs of all papers are available via the online AAAI-17 schedule (Guidebook). For more information, please inquire at the registration desk.

San Francisco Information/Visitors Center

The San Francisco Information/Visitors Center is located at 900 Market Street, at the Powell Street BART/MUNI station. For more information, including restaurant suggestions, please see www.sftravel.com/visitor-information-center.

Volunteer Station

The volunteer station will be located in the onsite registration area. All volunteers are required to sign in prior to their shift, and sign out when they finish.



AAAI/IAAI/EAAI Technical Sessions

(Monday – Thursday)

Included on this and the next 4 pages is an overview of the AAAI, IAAI, and EAAI Technical Sessions. Please consult the AAAI-17 Guidebook for full paper listings.

Coffee Breaks

Coffee breaks will be available each day at 11:00 AM and 3:30 PM, Monday – Thursday in the East Lounge and Golden Gate Main Foyer.

Lunch Breaks

The lunch break will be from 12:30 – 2:00 PM Monday – Wednesday.

Ending Day

The conference concludes at 12:42 PM on Thursday, February 9.

Talk Lengths

AAAI Talks are18 minutes.
AAAI Spotlight Talks are 2 minutes
Senior Member Blue Sky Talks are 18 minutes
Senior Member Summary Talks are 18 minutes
What's Hot Talks are 15 minutes
IAAI Deployed Talks are 35 minutes
IAAI Emerging Talks are 30 minutes
IAAI Challenge Talks are 10 minutes plus a 10 minute Q&A.

Sunday, February 5

9:00 – 9:05 AM	EAAI-17 Welcome (Sven Koenig and Eric Eaton)	Golden Gate 1-2
9:05 – 10:05 AM	EAAI-17 Invited Talk (Ayanna Howard)	Golden Gate 1-2
10:05 – 10:30 AM	EAAI-17 Accepted Papers I: Main Track	Golden Gate 1-2
11:00 AM – 12:10 PM	EAAI-17 Model AI Assignments I	Golden Gate 1-2
2:15 – 2:30 PM	EAAI-17 Accepted Papers II: REU Track	Golden Gate 1-2
2:30 – 3:30 PM	EAAI-17 Panel (NSF Research Experience for Undergraduates (REU) Sites)	Golden Gate 1-2
4:00 – 4:50 PM	EAAI-17 Not-So-Grand Challenge I	Golden Gate 1-2
5:00 – 5:50 PM	EAAI-17 Blue Sky Ideas in AI Education (New and Future AI Educator)	Golden Gate 1-2
5:50 – 6:30 PM	EAAI-17 Open Demos and Hands-on Explorations	Golden Gate 1-2
6:00 – 7:30 PM	AAAI-17 Opening Reception	Yosemite Ballroom
8:00 – 9:00 PM	AAAI-17 Invited Talk (Lynne Parker)	Continental 5

Monday, February 6

8:30 – 8:55 AM	AAAI: Welcome and Opening Remarks, AAAI Organizational Awards/Honors	Continental 4-6
9:00 – 9:50 AM	AAAI-17 Invited Talk (Rosalind Picard)	Continental 4-6
10:00 – 11:00 AM	AAAI-17 Session ML1: Optimization	Continental 7-8
	AAAI-17 Session AIW1: Crowdsourcing Techniques and Methodologies	Continental 9
	AAAI-17 Session ML2: Preferences/Ranking Learning	Continental 1-3
	AAAI-17 Session VIS1: Language and Vision	Golden Gate 7-8
	AAAI-17 Session MLA1: Recommender Systems	Golden Gate 3
	AAAI-17 Session KRR1: Computational Complexity of Reasoning	Golden Gate 4
	AAAI-17 Session GTEP1: E-Commerce and Auctions	Golden Gate 6
	AAAI-17 Session AIW2: AI for Multimedia and Multimodal Web Applications	Plaza A
	AAAI-17 Session NLP1: Semantics and Summarization	Plaza B
10:00 – 11:00 AM	IAAI-17 Engelmore Award Lecture (David Aha)	Continental 4-6
10:00 – 11:00 AM	EAAI-17 Panel (AI Ethics Education)	Golden Gate 1-2
11:30 AM – 12:30 PM	AAAI-17 Session ML3: Big Data / Scalability	Continental 7-8
	AAAI-17 Session ML4: Relational / Graph-Based Learning	Continental 1-3
	AAAI-17 Session VIS2: Categorization	Golden Gate 7-8
	AAAI-17 Session MLA2: Images and Video	Golden Gate 3
	AAAI-17 Session KRR2: Ontologies	Golden Gate 4
	AAAI-17 Session GTEP2: Social Choice / Voting	Golden Gate 6
	AAAI-17 Session AIW3: Social Networking and Community Identification	Plaza A
	AAAI-17 Classic Paper Award Lecture (Dieter Fox)	Plaza B
11:30 AM – 12:30 PM	IAAI-17 Session: Transportation: AI Applied to Safer and More Efficient Travel	Golden Gate 5
11:30 AM – 12:30 PM	EAAI-17 Session: Model AI Assignments II	Golden Gate 1-2
	EAAI-17 Session: Accepted Papers III: AI for Education and Outreach	Golden Gate 1-2
2:00 – 3:30 PM	AAAI-17 Session ML5: Transfer; Adaptation; Multitask Learning	Continental 7-8
	AAAI-17 Session What's Hot 1	Continental 9
	AAAI-17 Session ML6: Learning Theory	Continental 1-3
	AAAI-17 Session VIS3: Object Recognition	Golden Gate 7-8
	AAAI-17 Session MLA3: Machine Learning Applications	Golden Gate 3
	AAAI-17 Session KRR3: Knowledge Acquisition	Golden Gate 4
	AAAI-17 Session GTEP3: Equilibrium	Golden Gate 6
	AAAI-17 Session PS1: Planning	Plaza A
	AAAI-17 Session NLP2: Learning	Plaza B
2:00 – 3:30 PM	IAAI-17 Session: Deployed AI Systems	Golden Gate 5
2:00 – 2:50 PM	EAAI-17 Outstanding Educator Talk (Sebastian Thrun)	Golden Gate 1-2
2:50 – 3:30 PM	EAAI-17 Panel (AI for Education)	Golden Gate 1-2
4:00 – 5:00 PM	AAAI-17 Invited Panel: AI for Social Good	Continental 4-6
5:10 – 6:10 PM	AAAI-17 Invited Panel: AI History: Expert Systems	Continental 4-6
6:30 – 8:30 PM	AAAI-17 Poster / Demo Session 1	Imperial Ballroom

Tuesday, February 7

8:50 – 9:50 AM	AAAI-17 Invited Talk (Steve Young)	Continental 4-6
10:00 – 11:00 AM	AAAI-17 Session ML7: Online Learning	Continental 7-8
	AAAI-17 Student Abstract Spotlights	Continental 9
	AAAI-17 Session ML8: Feature Construction / Reformulation	Continental 1-3
	AAAI-17 Session VIS4: Deep Learning for Vision	Golden Gate 7-8
	AAAI-17 Session MLA4: Applications of Deep Learning / Neural Networks	Golden Gate 3
	AAAI-17 Session KRR4: Description Logics	Golden Gate 4
	AAAI-17 Session GTEP4: Auctions and Market-Based Systems	Golden Gate 6
	AAAI-17 Session ML9: Optimization	Plaza A
	AAAI-17 Session NLP3: Parsing and Translation	Plaza B
	AAAI-17 Session PS2: Deterministic Planning	Golden Gate 1-2
10:00 – 11:00 AM	IAAI-17 Invited Talk (Jeremy Frank)	Continental 4-6
11:30 AM – 12:30 PM	AAAI-17 Session ML10: Reinforcement Learning	Continental 7-8
	AAAI-17 Session Senior Member Talks 1 (Summary)	Continental 9
	AAAI-17 Session ML11: Bayesian Learning	Continental 1-3
	AAAI-17 Session VIS5: Image and Video Retrieval	Golden Gate 7-8
	AAAI-17 Session MLA5: Bio/Medicine	Golden Gate 3
	AAAI-17 Session KRR5: Action, Change, and Causality	Golden Gate 4
	AAAI-17 Session GTEP5: Social Choice / Voting	Golden Gate 6
	AAAI-17 Session ML12: Methods	Plaza A
	AAAI-17 Session NLP4: Learning	Plaza B
	AAAI-17 Session PS3: Temporal Planning	Golden Gate 1-2
11:30 AM – 12:30 PM	IAAI-17 Session: Health and Wellness	Golden Gate 5
2:00 – 3:30 PM	AAAI-17 Session ML13: Dimensionality Reduction / Feature Selection	Continental 7-8
	AAAI-17 Session ML14: Clustering	Continental 1-3
	AAAI-17 Session VIS6: Videos	Golden Gate 7-8
	AAAI-17 Session MLA6: Deep Learning / Neural Networks	Golden Gate 3
	AAAI-17 Session NLP5: Information Extraction	Golden Gate 4
	AAAI-17 Session GTEP6: Game Theory	Golden Gate 6
	AAAI-17 Session ML15: Reinforcement Learning	Plaza A
	AAAI-17 Session HSO1: Optimization	Plaza B
	AAAI-17 Session NLP6: Learning	Golden Gate 1-2
2:00 – 3:30 PM	IAAI:17 Session: Smart Environments	Golden Gate 5
4:00-5:00 PM	AAAI-17 Session ML16: Deep Learning / Neural Networks	Continental 7-8
	AAAI-17 Session MLA7: Machine Learning Applications	Continental 1-3
	AAAI-17 Session VIS7: Object Recognition	Golden Gate 7-8
	AAAI-17 Session MLA8: Applications of Supervised Learning	Golden Gate 3
	AAAI-17 Session NLP7: Text Mining	Golden Gate 4
	AAAI-17 Session GTEP7: Social Choice / Voting	Golden Gate 6
	AAAI-17 Session ML17: Classification and Clustering	Plaza A
	AAAI-17 Session HSO2: Search	Plaza B
4:00-5:00 PM	IAAI-17 Session: Explanations: Trouble Shooting and QA	Golden Gate 5
5:10 – 6:10 PM	AAAI-17 Invited Talk (Peter Dayan)	Continental 4-6
6:10 – 6:30 PM	AAAI-17 Video Competition Awards	Continental 4-6
6:30 – 8:30 PM	AAAI-17 Poster / Demo Session 2	Imperial Ballroom

Wednesday, February 8

8:30 – 8:50 AM	AAAI-17 Conference Awards (Shaul Markovitch and Satinder Singh)	Continental 4-6
8:50 – 9:50 AM	AAAI-17 / IAAI-17 Joint Invited Talk (Dmitri Dolgov)	Continental 4-6
10:00 – 11:00 AM	AAAI-17 Session ML18: Deep Learning / Neural Networks	Continental 7-8
	AAAI-17 Session HSO3: Search and Optimization	Continental 9
	AAAI-17 Session ML19: Graphical Model Learning	Continental 1-3
	AAAI-17 Session VIS8: Videos	Golden Gate 7-8
	AAAI-17 Session STCOGS1: Language Understanding and Dialogue	Golden Gate 3
	AAAI-17 Session RU1: Probabilistic Inference	Golden Gate 4
	AAAI-17 Session MAS1: Coordination and Collaboration	Golden Gate 6
	AAAI-17 Session HSO4: Optimization + Senior Member	Golden Gate 1-2
10:00 – 11:00 AM	IAAI-17 Session: Decision Support: AI for Better Decision Making	Golden Gate 5
11:30 AM – 12:30 PM	AAAI-17 Session ML20: Classification	Continental 7-8
	AAAI-17 Session HSO5: Heuristic Seach	Continental 9
	AAAI-17 Session ML21: Data Mining and Knowledge Discovery	Continental 1-3
	AAAI-17 Session SCS1: Constraint Satisfaction	Golden Gate 7-8
	AAAI-17 Session STCOGS2: Conceptual Inference and Reasoning	Golden Gate 3
	AAAI-17 Session RU2: Sequential Decision Making	Golden Gate 4
	AAAI-17 Session GTEP8: Social Choice / Voting	Golden Gate 6
	AAAI-17 Session Senior Member Talks 2 (Summary)	Golden Gate 1-2
11:30 AM – 12:30 PM	IAAI-17 Session: Sense-Making: Using Automated Systems …	Golden Gate 5
2:00 – 3:30 PM	AAAI-17 Session ML22: Dimensionality Reduction / Feature Selection	Continental 7-8
	AAAI-17 Session NLP8: Applications	Continental 9
	AAAI-17 Session ML23: Time-Series / Data Streams	Continental 1-3
	AAAI-17 Session ROB1: Robotics	Golden Gate 7-8
	AAAI-17 Session MAS2: Multiagent Systems	Golden Gate 3
	AAAI-17 Session STCOMPS1: Dynamic and Spatiotemporal Systems	Golden Gate 4
	AAAI-17 Session NLP9: Knowledge Representation and Semantics	Golden Gate 6
	AAAI-17 Session Senior Member Talks 3 (Blue Sky)	Golden Gate 1-2
4:00 – 5:00 PM	AAAI-17 Invited Talk (Kristen Grauman)	Continental 4-6
5:10 – 6:10 PM	AAAI Community Meeting (Led by Subbarao Kambhampati)	Continental 4-6
6:30 – 8:30 PM	AAAI-17 Event: Poster / Demo Session 3	Imperial Ballroom

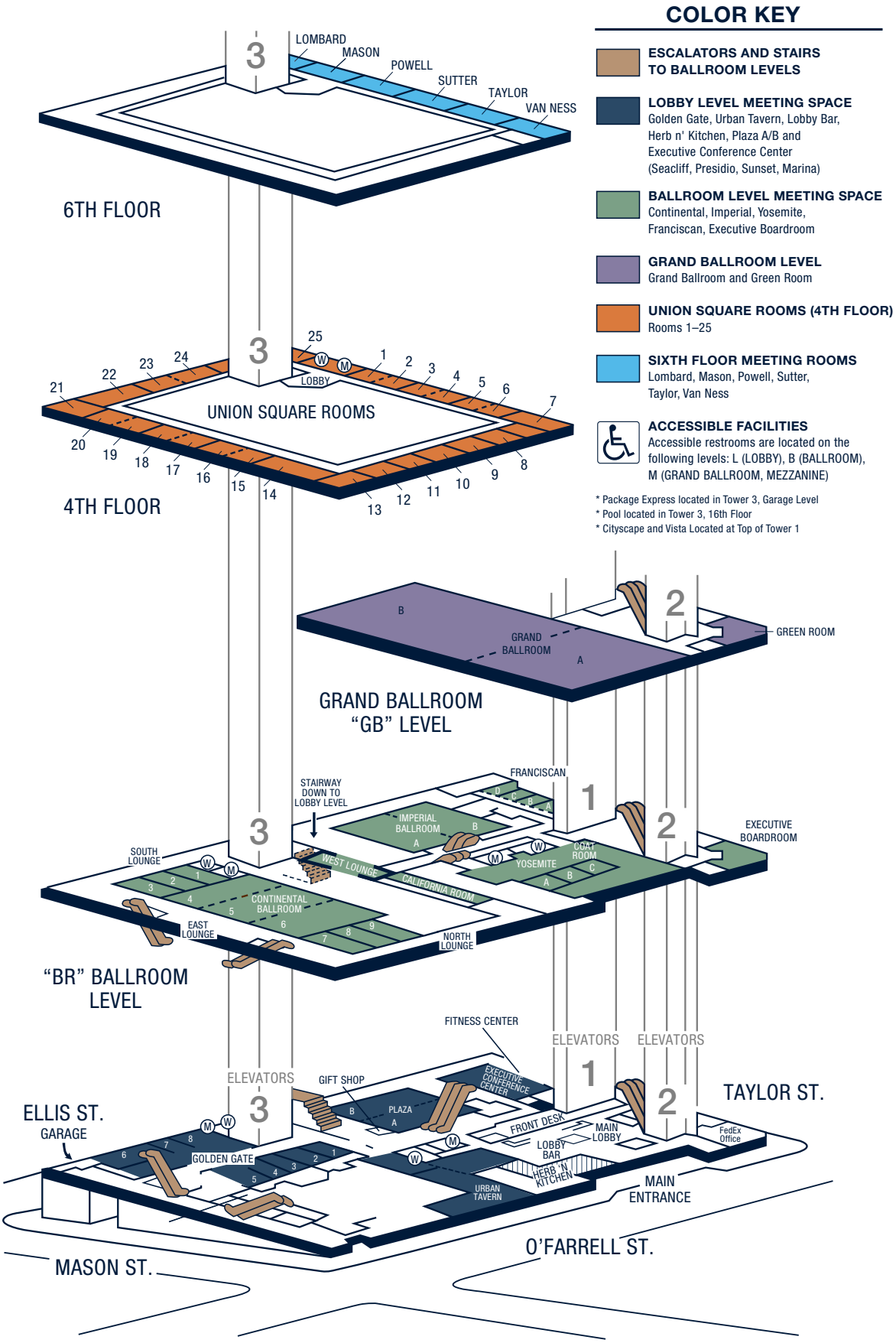
Thursday, February 9

8:00 – 8:45 AM	AAAI-17 Invited Panel (Advances in AI in Poker)	Continental 4-6
8:50 – 9:50 AM	AAAI-17 Invited Talk (Russ Tedrake)	Continental 4-6
10:00 – 10:54 AM	AAAI-17 Session APP1: Deep Learning	Continental 7-8
	AAAI-17 Session GTEP9: Game Theory and Mechanism Design	Continental 9
	AAAI-17 Session VIS9: Statistical Methods and Learning	Continental 1-3
	AAAI-17 Session RU3: Uncertainty	Golden Gate 7-8
	AAAI-17 Session VIS10: Perception	Golden Gate 3
	AAAI-17 Session APP2: Biomedical / Bioinformatics	Golden Gate 4
	AAAI-17 Session NLP10: Semantics and Summarization	Golden Gate 6
	AAAI-17 Session MLA9: Networks	Golden Gate 5
	AAAI-17 Session What's Hot 2	Golden Gate 1-2
11:30 AM – 12:42 PM	AAAI-17 Session ML24: Semisupervised Learning	Continental 7-8
	AAAI-17 Session PS4: Planning	Continental 9
	AAAI-17 Session ML25: Recommender Systems	Continental 1-3
	AAAI-17 Session APP3: Applications	Golden Gate 7
	AAAI-17 Session STIS1: Planning and Decision Making	Golden Gate 3
	AAAI-17 Session MLA10: Applications	Golden Gate 4
	AAAI-17 Session MLA11: Machine Learning Applications	Golden Gate 6
	AAAI-17 Session MLA12: Applications	Golden Gate 5
	AAAI-17 Session SCS2: Search	Golden Gate 1-2

Disclaimer

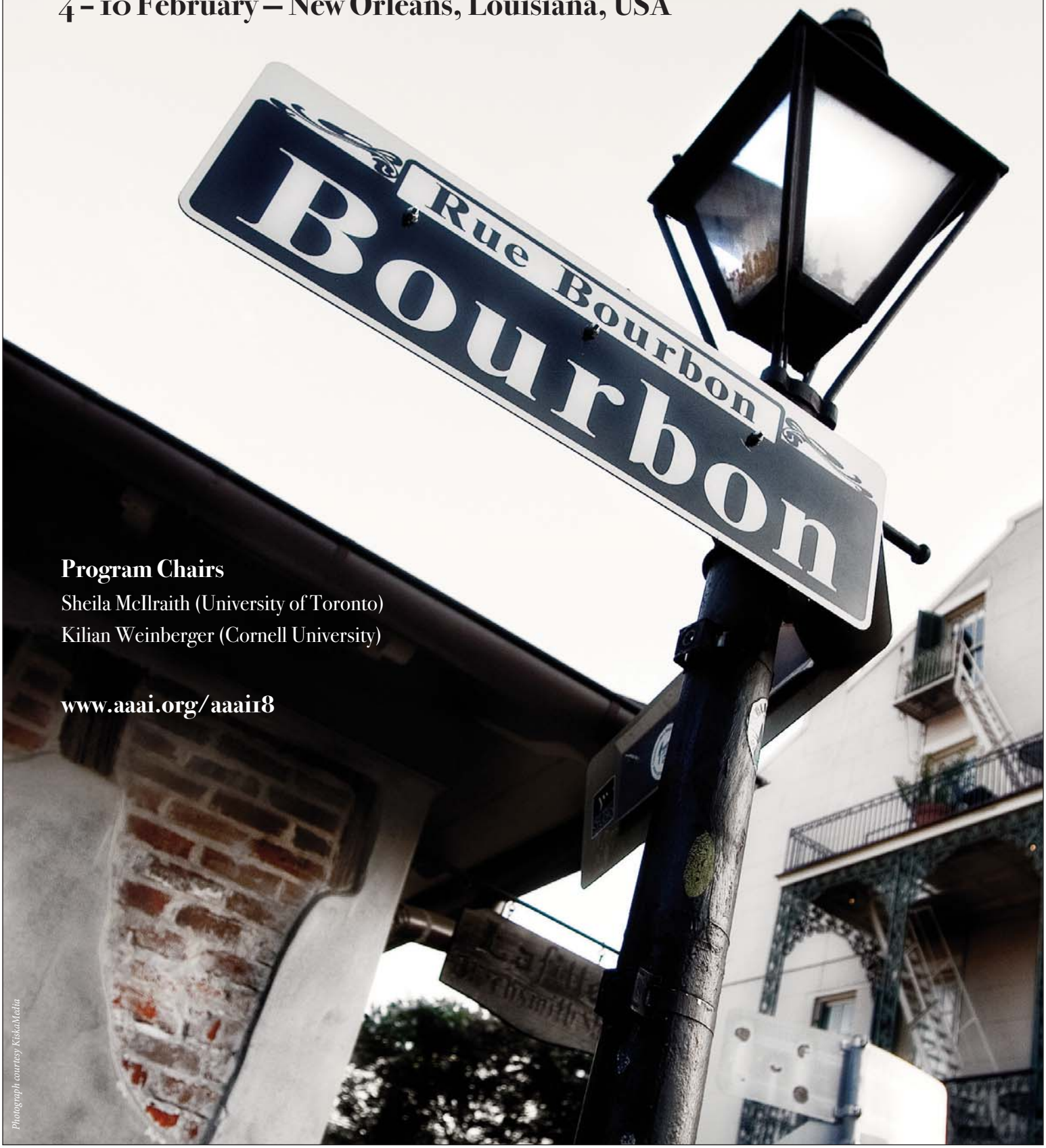
In offering the Hilton San Francisco Union Square, Freeman Expositions, Inc., PSAV, and all other service providers (hereinafter referred to as "Supplier(s)" for the AAAI Conference on Artificial Intelligence and the Innovative Applications Conference), AAAI acts only in the capacity of agent for the Suppliers that are the providers of the service. Because AAAI has no control over the personnel, equipment or operations of providers of accommodations or other services included as part of the AAAI-17/IAAI-17 program, AAAI assumes no responsibility for and will not be liable for any personal delay, inconveniences or other damage suffered by conference participants which may arise by reason of (1) any wrongful or negligent acts or omissions on the part of any Supplier or its employees, (2) any defect in or failure of any vehicle, equipment or instrumentality owned, operated or otherwise used by any Supplier, or (3) any wrongful or negligent acts or omissions on the part of any other party not under the control, direct or otherwise, of AAAI.

Hilton Floor Plan



AAAI-18

4 – 10 February – New Orleans, Louisiana, USA



Program Chairs

Sheila McIlraith (University of Toronto)

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