TRANSFORMING ASSOCIATIONS THROUGH ARTIFICIAL INTELLIGENCE A COLLECTION OF INSIGHTS

FROM SURGE 2017





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INTRODUCTION

What you're about to read is the result of an experiment in virtual collaboration. SURGE 2017 assembled association professionals from across the globe to harness collective knowledge within a virtual summit of a completely new model.

Attendees could not only hear from speakers, but converse with them in real time and contribute their own ideas. We have now assembled some of the best insights from these conversations into a body of knowledge for the benefit of the entire association community.

This eBook, one of a 12-part SURGE series, delves into the session *Transforming Associations Through Artificial Intelligence.* It includes themes from the speakers' conversation, snapshots of ideas from guest speakers, contributions from attendees, links to further resources, and more.

Thank you to all who participated – and if you missed it, go to the SURGE 2017 event page to watch all the sessions for free, at your leisure!



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O1 **FEATURED SPEAKERS**







Reggie Henry Chief Information Officer, ASAE

Reggie Henry joined ASAE in November of 1994. His responsibilities are to implement "exemplary" systems at ASAE that can serve as a model to the rest of the association community and to "ratchet-up" the use and understanding of technology among ASAE members. He speaks regularly on technology and strategy issues. Reggie was recently named one of the top 40 CIOs in DC-MD-VA area. Mr. Henry holds a B.S. in Economics and Computer Science from Georgetown University. Mr. Henry serves on the Curriculum Committee and faculty of the Institute for Organization Management (U.S. Chamber of Commerce) and the Board of Directors of Educause, a nonprofit association and the foremost community of IT leaders and professionals committed to advancing higher education.







Amith Nagarajan Executive Chairman and Founder, rasa.io

Amith Nagarajan is an entrepreneur who believes in combining purpose, passion and profit. Amith grew up in Silicon Valley and started Aptify in 1993, which is now part of the Community of Brands. Aptify is an purpose-driven company focused on providing technology and services to the not-for-profit sector around the globe. More recently Amith founded Association Success Corporation, which has 3 family members including rasa.io (Artificial Intelligence aided Online Communities), AssociationSuccess.org (content and learning resources) and Radolo (custom applications and integrations).







Thad Lurie, CAE, CIP Vice President, Business Intelligence & Performance, Experient

Thad Lurie is VP, Business Intelligence and Performance for Experient and works with organizations in using their data to drive improved business performance. Previously, Lurie was VP, Operations and Chief Information Officer for EDUCAUSE and led the association's functions relating to membership, marketing, conferences and events, content, web, and information technology. He holds both the CAE and CIP credentials, and has served as CIO for a number of different associations, including the American Wind Energy Association and the American Health Lawyers Association. He is an active speaker and author for ASAE, CSAE, PCMA, DigitalNow, and other organizations, serves on the board Nurture Project International, and recently served as the Chair of the ASAE Technology Council.







Jeff De Cagna, FRSA FASAE Executive Advisor, Foresight First LLC

Jeff is an author, speaker and advisor for associations and non-profit organizations across North America and around the world. He is a Fellow of ASAE: The Center for Association Leadership. Jeff serves as immediate past chair of ASAE's Key Consultants Committee and as a member of the ASAE 2020 Centennial Task Force. Jeff recently was elected to serve on the Hugh O'Brian Youth (HOBY) Virginia Board of Directors. A graduate of the Johns Hopkins and Harvard universities, Jeff has pursued executive education at the MIT Sloan School of Management, Oxford University and Harvard Business School. He holds the BoardSource Leadership Certificate for Nonprofit Board Chairs, and has completed Foresight Practitioner training at the Institute for the Future.











Peter Diamandis Co-founder and Vice Chairman at Human Longevity, Inc

Dr. Peter H. Diamandis is an international pioneer in the fields of innovation, incentive competitions and commercial space. In the field of Innovation, Diamandis is Founder and Executive Chairman of the XPRIZE Foundation. Diamandis is the Co-Founder and Vice-Chairman of Human Longevity Inc. (HLI). He is also the Co-Founder and Executive Chairman of Singularity University, a graduate-level Silicon Valley institution. In the field of commercial space, Diamandis is Co-Founder and Co-Chairman of Planetary Resources, a company designing spacecraft to enable the detection and prospecting of asteroid for precious materials. Diamandis is the bestselling author of Abundance – The Future Is Better Than You Think and BOLD – How to go Big, Create Wealth & Impact the World.







Vaughn DiMarco

CEO, Montreal AI Consultancy



DEFINING AND UNDERSTANDING AI





With Amith Nagarajan

A *rtificial Intelligence* refers to the ability for a computer to mimic the behavior of a human or more than one human in its ability to reprogram itself over time based on learned observations.

Machine learning is an application of AI that involves learning by applying statistical algorithms to data. It takes a statistical approach to gain insights into data and make informed decisions based on these insights. One category of machine learning includes using *predictive analytics* to help an organization figure out what factors influence things like revenue and sales. In the association space, similar algorithms can be used to predict how factors like location impact conference registration and which members are most likely to renew or not.

Deep learning is a subcategory of machine learning. The most advanced cognitive machine is the human brain, and the brain essentially is a network of neurons that fire together. Deep learning mimics the way a human's neural networks function in terms of how information is transmitted. If you use Siri to get information from your iPhone, or other voice assistant technologies, then deep learning already makes your life easier. In the past few years, these technologies have drastically improved in their ability to accurately detect speech patterns across languages, age groups, and accents.



Natural Language Processing is a category of AI that uses machine and deep learning techniques to classify language, and helps us make decisions based on natural language, whether it's spoken or written. Features of NLP can be applied to the association domain. For example, a challenge that associations face is how to classify information. An important role of an association is to provide high-quality, trustworthy information to its community. Information must be classified in a way that allows people to easily find what they're looking for. That challenge has become exponentially greater over the last 20 years as the internet has grown.

Classification systems must be both rich enough to be useful and simple enough to be implemented. They should be user-friendly and able to grasp the full domain of content in your field. It's labor intensive to keep up with new content coming into your ecosystem as you write e-content, and as you curate content from other sources. How do you possibly keep up with tagging that content, putting it into your taxonomy, making it searchable, making a browsable, making it easily accessible? **NLP has the ability to look at a piece of content and know what it is about, to summarize it and to extract key phrases or concepts.** The quality level of these tools over the last several years has profoundly improved.

D4 The radical potential of a





Artificial Intelligence is creating both opportunities and risks for our Organizations as it transforms the landscape in which they operate. Advancements in AI offer exciting new options for automation, personalization, and decision making. At the same time, we are also facing the prospect of entire industries being replaced and many of the traditional functions of associations becoming obsolete. How do we take advantage of this exponential technology? How can your association leverage the power of AI to improve the way you connect, engage, and provide service to members? What would it look like for an association to drive its operations, decision making, and member experience with significant assistance from AI?

Let's hear from Peter Diamandis



"In my work, I am focused on exponential technologies such as computer sensors, networks, AI, robotics, 3D printing, synthetic biology, and blockchain. **These technologies are going to change every aspect of our lives in this next decade.** Every industry - insurance, finance, medicine, health care - will change. The biggest impactor in these fields is going to be artificial intelligence.



"When you think of AI you may think of Google Now, Siri or Alexa but that's only its earliest phases. Development is coming at an extraordinary rate - think technology at the level of Jarvis, the AI in Iron Man's suit. I recently spoke with Ray Kurzweil at Google, one of the prime AI thinkers on the planet. Ray projects that by 2029 we're going to have human level intelligence in machines. This means that we'll all be able to speak to an AI that is as smart or smarter than the smartest humans around. We're going to have AI that we can ask any question and it will go out on the web, search for that information and bring you that answer. You want to know anything that is knowable? AI will find the answer for you.

"Autonomous cars are also on their way by 2025. Car ownership may become obsolete because we're going to start seeing a car as a service. These electric cars will show up when you need them, take you where you need to go, park themselves, won't get speeding tickets, won't need car insurance, and won't need to be fueled up. Companies like Uber, Lyft, Tesla, and Waymo will be at the forefront of this. And it won't all be expensive: I was just in China where I met a company that's producing \$5 chipsets that utilize machine learning. Soon every toy and every device is going to have some level of built-in artificial intelligence.

"As association members and professionals, you must ask: how do we use AI to service our members? They need to learn about artificial intelligence. It's going to transform how they deliver their business and how they create their products and services. All members of all associations are going to be impacted, so pay attention."



From the Chat: AI in Healthcare

I hope AI gets to a level where we can produce complex medical case vignettes, maybe based on aggregated Electronic Health Record data. Physicians tend to love--and need--these kind of simulated practice reps, like a poker player improves his game by seeing more simulated hands. But practice scenarios like this take a while to write well. Not that I'm trying to replace my SMEs with automation... If we're going to harness AI in meaningful ways, we need inputs that talk. For our association that means our journal, magazine, CMS content, LMS activities, and AMS events. If we can't fix our data problem, I think we're going to be limited to really specific use cases. Virtual agents for meetings, rather than member value across a whole organization.

- Nick Marzano -

AI is coming into imaging, a whole domain in health care where patients typically aren't aware of what's happening or how it works, certainly not in detail. It's backstage. And as imaging merges with intervention (radiation therapy, interventional radiology, nuclear medicine therapy) the AI will come with it, but the patient probably still won't see it clearly. **So patient acceptance is not likely to be a gatekeeper in this case, any more than user acceptance of algorithms is a gatekeeper in social media**.

- Meredith Low -

Robotic surgeons don't have bad days, don't need rest, and don't make mistakes. Wouldn't you want that in your surgeon?

- Thad Lurie -







By Jeff De Cagna FRSA FASAE

As sociations focus most of their resources and attention on their members. Al, however, is not a membership-centric platform. The implications of Al technologies extend far beyond membership boundaries and include all stakeholders. As legacy organizations, associations cannot limit their thinking by viewing Al merely as a way to extend the life of their existing business models. Having missed the opportunity to reinvent their organizations around social and mobile platforms, association decision-makers must embrace the reinvention opportunity offered by the growing impact of artificial intelligence technologies.

Associations must think beyond simple awareness of AI and prioritize shifting mindsets. For boards, chief staff executives and other staff, recognizing AI as a critical driver of societal transformation demands a deeper level of learning through the work of foresight, as described below.

Boards

Boards are the **only** groups within associations/non-profits that combine the responsibility, opportunity, and authority to pursue the work of foresight. As I've written in the last few years, boards have a **duty of foresight** - a serious responsibility to learn as much as possible with the future so they can anticipate, prepare and take action on behalf of their stakeholders. The duty of foresight demands that boards devote their attention in understanding the deep and broad implications of AI.



Al will have a disruptive impact on virtually every field of human endeavor. The more boards can learn about how Al will reshape their fields, and appreciate the profound impact Al will have on both current and future stakeholders, the better. This learning process of sense-making (building an intellectual understanding), meaning-making (building an empathic understanding) and decision-making (taking consistent and appropriate action) must begin immediately.

Chief Staff Executives

Chief staff executives (CSE) must support the board's duty of foresight and also consider how AI can reinvent their organizations for the future, especially when it comes to new value creation for all stakeholders. The disruptive impact of AI demands that CSEs take a critical look at how to pivot legacy business models toward the future as soon as possible.

Some association decision-makers believe it is too soon to be discussing AI in associations. I respectfully disagree. Our previous experiences with social and mobile technologies should remind us that **it's never too soon to prepare.** Chief staff executives must accelerate that preparation within the staff and across the organization as a whole.

C-suite

Chief Officers in all areas (CXOs) must work with their boards and chief staff executives to inform foresight and think through organizational reinvention. CXOs have individual areas of interest and focus and don't always work well together as senior teams. Nevertheless, they must collaborate to develop a more robust approach for using AI to innovate and create new stakeholder value.



For example, they can capitalize on data - the essential resource for training AI technologies - by effectively managing data acquisition, integrity and quality. Moreover, CXOs need to have the greatest depth of understanding of AI in order to know which AI experiments the organization should run.

CIOs (chief information officers) in particular need to evaluate whether potential association partners have the AI capabilities their organizations need. Can they assist with data management issues? Are they able to help build AI-based applications? CIOs also can influence existing technology partners by asking them where AI enters into their product roadmaps and how it will be integrated into existing applications.

Artificial intelligence will transform our world over the next decade and beyond. Association boards, chief staff executives and senior teams must learn with future of AI to begin building their organizations to thrive today.



From the Chat: Networking Tools

One thing I hope AI can do soon is help associations connect professionals better. Networking the way we do it only serves some. AI could be so beneficial in this space! Many professionals say that receptions are scary and uncomfortable. Not only that, it's luck if you meet the right person, someone doing what you are doing or someone who did what you want to do. **One of any association's key values is networking but the way we deliver it is uncomfortable for members and doesn't always work well.** I am hopeful that AI solutions help associations help their members to network in an easier and more meaningful way.

- Amanda Kaiser -



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By Vaughn DiMarco



I run MTL Data, which is a community of over 5000 data practitioners in Montreal, Canada. Broadly speaking, this includes AI researchers, data analysts and everyone in between. We host monthly events that attract anywhere from 100 to 5000 attendees.

Montreal has many academic institutions and a high density of people studying specifically within IT and AI. There has been a significant increase over the last two years of people interested in this field and now the city is a hotbed for AI research. We have grown from around 1000 people two years ago to over 5000 today.

There are many exciting things happening in the domain of AI that have become possible because of a few key factors, including:

1. Computing power: Five years ago the availability of computing power was relatively expensive, and this limited our activities. Today, with cloud providers and access to GPUs, computing power is readily available and the possibilities are extensive.



- **2. Research:** Academic findings are increasingly disseminated into real industry applications. The volume of research is increasing and so too are the applications of that research.
- **3. Tools:** Tooling for AI, such as libraries and frameworks, are extremely well supported by the biggest players in this field, like Google and Facebook. They have put together robust tools like *Tensorflow*. With ten lines of very simple code you can do amazing things and it's only getting better.

What does the near future look like?

We are going to see more powerful programs requiring fewer lines of code. We're going to see tasks being solved using features like image recognition, emotion recognition and speech-to-text. For instance, Google has already released a product that provides immediate real-time translation from one language to another. This is the international translation device that we've been waiting for, and it works here and now!

Get ready to see a significant rise in applications and real-world uses of AI in every industry.



From the Chat: Content, Communication, and Curation

If AI starts to learn about us and tailor content, is it preventing us from broadening our horizons?

- Arianna Rehak -

If you asked staff in our building if we use AI, their answer would be no. If you explained to them the different types, how they are used and gave them a list of services we use, their answer would still be no. But we do use some AI functionality. People don't recognize it as such, they think it's IT working magically.

We use AI functions within several different communication tools, from sending emails to members to searching the internet for relevant news articles. These are useful but they don't take us to the next level. If we took time to configure AI into our membership database, we could see drastic results. We could speed up tasks, allowing staff to spend time in other areas of work and reducing the "I'm busy" syndrome. We could track membership more efficiently, predict trends and strategize how to deal with trends before they happen. These shifts would allow us to provide better service to our membership.

I believe many associations are in the same place we are. They use some AI functions in services they rent online but don't realize the benefits they reap from it could be applied to their own database as well as communications.

- Emery Wolfe -



At the end of the day it's not how much content you have stashed away, but how much high value content you can share with your members when they need it.

- Rick Rutherford -

I shouldn't be able to tell you're using AI. That the great thing about AI, that's what it should be.

- Adrienne Bryant -







Let's hear from the experts about what the near future holds.

Reggie Henry on personalized member experiences

Through an organizational membership program, ASAE almost doubled its membership by going from 22,000 to 39,000 members in the last 15 months. **Everything in the organization must scale up. We need to recognize that expectations are increasing, based on the technology people use in their personal lives.** For example, when shopping online, Amazon Prime can give a customer what they want, when they want it, the day after they ask for it. Associations should aim to achieve similar results for their members.

We've got to find out what members need. Right now, we don't have an easy way of talking to all of our members one-on-one, but AI could help. I am looking for this ability to scale up products and services in a personalized way, to engage members who pay for us to know what they need when they need it, and to deliver services to them. Hopefully next year I'll be able to tell you this is exactly what we did with AI.

Thad Lurie on handling data wisely

Associations are Switzerland - we are the neutral space. Whether it's a professional association where doctors come together for professional development, or a



trade association that represents a league of businesses to advance an industry, we represent a middle ground. We have the opportunity to bring together industry data for the benefit of those who trust us.

Previously, people looked at data with human eyes and human judgement, only able to absorb and process so much at any given time. With the advent of Al, we can take national data and analyze trends very quickly and effectively almost in real time. This has huge and exciting implications for content curation and personalization.







What were the most discussed topics in the attendee chat? The more frequently a word was used, the larger it appears in this image!









During the live chat, speakers and attendees alike chipped in with their tips for further reading and resources about the future of learning. We've compiled them into a list here. Keep on learning!

- Article: AI can help members develop an association habit
- Article: Content curation for association members
- ASAE Resource: ForesightWorks Action Brief
- Article: Making Als fair and accountable
- Introduction to AI, Machine Learning and Deep Learning
- What is neural lace?
- Article: How to keep things personal using AI
- Feature: Love in the time of robots
- Book: Drive: The Surprising Truth About What Motivates Us by Daniel Pink
- Resource: Drivers of Change: Summaries of 41 Key Trends Identified by ASAE ForesightWorks



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