



Association for
Computing Machinery

Advancing Computing as a Science & Profession



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**New Developments in Multimedia, Computer Vision and Machine Learning Take
Center Stage at ACM Multimedia Conference**

*25th Anniversary Celebration to Include Keynote Addresses by
Leaders at NVIDIA, Google, and Samsung*

NEW YORK, October 12, 2017 – The Association for Computing Machinery’s Special Interest Group on Multimedia (ACM SIGMM) is pleased to announce that ACM MM 2017 will be held from October 23-27, 2017 at the renowned Computer History Museum in Mountain View, California. The annual conference, now in its 25th year, will bring together promising startups, researchers and industry leaders in multimedia, computer vision and machine learning to discuss the latest advancements and applications in these technologies.

"Multimedia is no longer restricted to audio and visual media, only," said ACM MM 2017 General Chair Qiong Liu of FX PAL. "In this age of Big Data, we’re seeing a lot of exciting research in multimedia as it relates to deep learning, mobile and wearable technologies, virtual/augmented/mixed reality and autonomous vehicles, among others. ACM MM 2017 will offer a unique opportunity for academics, students, entrepreneurs, technologists and others to cross paths and exchange the latest and newest ideas in this vibrant field."

2017 ACM MM Highlights

Keynote Addresses

Enhancing and Augmenting Human Perception with Artificial Intelligence

Achin Bhowmik, CTO & EVP, Starkey, USA

9 a.m.-10 a.m., Tuesday, October 24

Devices and systems are being developed that can sense and understand the world around them. In this keynote, Achin Bhowmik will present a synopsis of the current state-of-the-art results in the field of enhancing and augmenting the human sensation and perceptual processes with applications based on novel transduction devices and artificial intelligence technologies.

Efficient Methods and Hardware for Deep Learning

Bill Dally, Senior Vice President and Chief Scientist, NVIDIA, USA

2 p.m.-3 p.m., Tuesday, October 24

Systems based on deep learning now exceed human capability in speech recognition, object classification, and playing games like Go. Bill Dally will review the current state of deep learning and describe recent research on making these systems more efficient.

Building Multi-modal Interfaces for Smartphones

Injong Rhee, CTO & EVP, Samsung Electronics, Korea

9 a.m.-10 a.m., Wednesday, October 25

The increasingly small size of mobile phones belies a complexity that is largely unknown to the user – making it almost impossible to discover and use these expanded capabilities. Injong Rhee will discuss this problem, its ramifications to multimedia and future outlook.

DeepQ: Advancing Healthcare through AI and VR

Edward Y. Chang, President, HTC, Taiwan

2 p.m.-3 p.m., Wednesday, October 25

In this talk, Edward Y. Chang will share the experience of developing DeepQ, an AI platform for AI-assisted diagnosis and VR-facilitated surgery. He will present three healthcare initiatives that have been undertaken since 2012: Healthbox, Tricorder, and VR surgery, and explain how AI and VR play pivotal roles in improving diagnosis accuracy and treatment effectiveness.

Bringing a Billion Hours to Life

Scott Silver, Vice President, Google, USA

9 a.m.-10 a.m., Thursday, October 26

YouTube recently announced the milestone of 1 billion hours watched each day and 400 hours uploaded every minute. All of that consumes an enormous amount of computation, storage and bandwidth. Scott Silver will review how YouTube got to this point and where they think they're going.

Bringing Gaming, VR, and AR to Life with Deep Learning

Danny Lange, Vice President, Unity Technologies, USA

2 p.m.-3 p.m., Thursday, October 26

Game development is a complex and labor-intensive effort. Over the last few years, data intensive machine learning solutions have obliterated rule-based systems. Danny Lange of Unity Technologies, a game developer, will share what they have learned about the industry using deep learning in content creation and the application programming interfaces (APIs) they use.

Additional Conference Highlights Include:

Best Business Venture Contest

Multimedia researchers and entrepreneurs were encouraged to submit proposals to the “Best Business Venture Idea” contest. Proposals must be anchored on a strong multimedia technology or innovation, including but not limited to AI in multimedia, computer vision and robotics, etc. During the conference, accepted ideas will be exposed to the venture capital community for evaluation of real funding

opportunities, and one proposal will be selected by a panel of experts drawn from both academia and the venture capital world for “Best Business Venture Idea Award.”

Challenge Competitions

- **Social Media Challenge** – Teams will compete to make predictions about the future from a social media dataset containing over 770,000 posts and 80,000 users. All teams will be ranked on both objective and human evaluations.
- **The 2nd Microsoft Research (MSR) Video to Language Challenge** – Recognition of videos has been a fundamental challenge of computer vision for decades. In this competition, given an input video clip, the goal will be to devise a computer program that will translate the video content into a complete natural sentence.
- **Lane Level Localization on a 3D Map** – An automated driving system must be reliable even under harsh conditions, due to GPS denial or imprecision, in vehicle sensor malfunction, heavy occlusions, poor lighting and inclement weather. Lane level localization on a 3D map allows the vehicle to function reliably in such conditions. Using a vehicle’s GPS data and in-vehicle camera sensor data in real time, teams will compete to localize a driving vehicle on a 3D map.

Makers’ Program

- **Makers’ Program** – New this year, the MM Conference will add a Makers’ Program, wherein participants are invited to submit tangible artifacts and demonstrations that conference attendees can interact with. Suitable topics include novel interactions with multimedia, multimedia storytelling and creation, mobile and wearable multimedia, and multimedia art, entertainment and culture.

Additional papers, tutorials, and demonstrations will be presented throughout the multi-day conference. For a complete list of papers and a full schedule of activities, please visit:

<http://www.acmmm.org/2017/>.

About SIGMM

[SIGMM](#) is ACM’s Special Interest Group on Multimedia—the community of researchers and practitioners dedicated to building next-generation technologies and applications around multimedia. SIGMM hosts several vibrant premiere conferences including ACM Multimedia, currently in its 24th anniversary (with 600+ participants annually), ICMR on multimedia retrieval, and MMSys on multimedia systems. The community also takes pride in its publications including the flagship journal *ACM TOMCCAP* and the affiliated *Springer Multimedia Systems Journal (MMSJ)*.

About ACM

ACM, the Association for Computing Machinery (www.acm.org), is the world’s largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field’s challenges. ACM strengthens the computing profession’s collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the

professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.

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