RESEARCH STATEMENT
My work sits at the intersection of multimedia, human-computer interaction, and social dynamics. My research is focused on understanding people and their interactions with video, images and other types of multimedia in various contexts from social communication, information retrieval, to artistic expression; this involves examining how media is created and captured, how media are stored and organized, and how media annotated and reused.

EDUCATION
2001–2005  Northwestern University
Doctor of Philosophy, Department of Computer Science.
Advisor/Committee Chair: Kristian Hammond
Committee: Don Norman, Larry Birnbaum, Shannon Bradshaw
Subjects: Artificial Intelligence, Multimedia Information Retrieval, HCI.
1996–1999  The University of West Florida
Masters of Science, Department of Computer Science.
1991–1996  The University of West Florida
Bachelor of Science, Department of Computer Science.

EXPERIENCE
9/16–present  Principal Investigator & Senior Scientist
Distributed & Interactive Systems Group, Centrum Wiskunde & Infomatica (CWI).
Amsterdam, Netherlands.
10/15–4/16  Director of Research,
HCI Research Group, Yahoo! Labs.
Science Lead, Flickr.
San Francisco, California.
7/12–9/15  Senior Research Manager,
HCI Research Group, Yahoo! Labs.
Scientific Liaison, Flickr.
San Francisco, California.
2/14–5/14  Visiting Senior Research Fellow,
Keio-NUS Cute Center, National University of Singapore.
Singapore.
7/06–7/12  Research Scientist
Internet Experiences Group, Yahoo! Research.
Brickhouse, Yahoo!
Media and Community Group, Yahoo! Research Berkeley.
San Francisco Bay Area, California.
8/05–6/06  Post-Doc Research Associate, Intelligent Information Laboratory,
Department of Electrical Engineering and Computer Science.
Northwestern University. Evanston, Illinois.
12/99–8/01  Visiting Researcher. Center for Mars Exploration,
TEACHING

National University
Visiting Studio Professor. (2014)
Digital Wellness for Children, School of Design & Environment
(Advised Student Projects in Studio, Gave Design Critiques)

National University
Visiting Lecturer. (2014)
Data Visualization, Communications & New Media
(Guest Lecture and ran class project on Geographic Photo Visualization)

National University
Visiting Lecturer. (2014)
Introduction to Communications, New Media & Society,
Communications & New Media
(Guest lecture on Digital Privacy and Expectation)

Northwestern University
Adjunct Professor. (2005)
News and News Media, Medill School of Journalism.
(revised department syllabus)

Northwestern University
Semantics & Natural Language Understanding
Dr. Larry Birnbaum

Northwestern University
Practicum in Intelligent Information Systems
Dr. Kristian Hammond

Pensacola State College
Instructor. (1996–1999)
Computer Graphics I, II, & III (revised department syllabus),
Multimedia Seminar (wrote department syllabus).

The University of West Florida
Instructor. (1998–1999)
(wrote department syllabus)

The University
Teaching Assistant. (1996–1997)
David Ayman Shamma

CURRICULUM VITAE

Introduction To Artificial Intelligence.
Contest Organizer for Lego Robotics Competition.

JOURNAL ARTICLES


CONFERENCE PUBLICATIONS


• S. Bakhshi, P. Kanuparthy, and D. A. Shamma. If it is funny, it is mean: Understanding social perceptions of yelp online reviews. In Proceedings of the 18th International Conference on Supporting Group Work, GROUP ’14, pages 46–52, New York, NY, USA, 2014. ACM


• D. A. Shamma, L. Kennedy, and E. F. Churchill. Watching and talking: Media content as social nexus. In Proceeding of the 2nd ACM international conference on Multimedia Information Retrieval, Hong Kong, June 2012. ACM


• J. Yew and D. A. Shamma. Know your data: Understanding implicit usage versus explicit action in video content classification. In IS&T/SPIE Electronic Imaging, January 2011


• D. A. Shamma, L. Kennedy, and E. F. Churchill. Tweetgeist: Can the twitter timeline reveal the structure of broadcast events? In CSCW Horizons, 2010

• D. A. Shamma, L. Kennedy, and E. F. Churchill. Tweet the debates: Understanding community annotation of uncollected sources. In WSM ’09: Proceedings of the international workshop on Workshop on Social Media, Beijing, China, 2009. ACM (Best Paper Nominated)


**MAGAZINE ARTICLES**


• D. A. Shamma. Beyond freebird. *XRDS*, 17:36–38, December 2010


**BOOK CHAPTERS**


**ORGANIZED WORKSHOPS, PANELS, COURSES, and TUTORIALS**


• An Introduction to Arts and Digital Culture inside ACM Multimedia. MM 2014. David A. Shamma and Daragh Bryne.


• Workshop on Socially-Aware Multimedia, ACM MM 2012. Pablo Cesar, David A. Shamma, Doug Williams, Cees Snoek.


INVITED TALKS and PANELS

- Images and Archives. Internet Archive Leader’s Forum. 10/2014.
- How to see 1 million photos. Information Visualization Lecture. National University of Singapore. 4/2014.
- Media, Community and the Social Photograph.
  - Cornell Tech.
  - Singapore Data Science Meetup.
  - Singapore Management University.
  - National University of Singapore.
  - CMU.
  - Georgia Tech.
  - UC Irvine. 1/10/2014.


- Social Substrates: People and the Data They Make.
  - Dean’s Lecture, School of Information, University of California. 2/29/2012.
  - Computer Science Seminar, Drew University. 4/2/2012.
  - School of Communications and Information, Rutgers University. 4/4/2012.

- Social Media Platforms: Future Trends and Technologies (Panel) with Google+ (Timothy Jordan), Facebook (Don Faul), and Yahoo! (David A. Shamma) at the Office of Naval Research (ONR)’s Social Media Conference: Current and Emerging Technology and Applications in Government and Industry. December 13–15, 2011. San Jose, CA.


- Staying together: an exploration of synchronous connected systems. Shamma D. A.
  - Nokia Research, Beijing. 9/16/2011.
  - HCI Seminar, Stanford. 1/12/2011.

• A movie and a chat: understanding conversation and real-time video
  – Computer Science Seminar, University of Amsterdam/CWI. 11/10/2009.
  – Lecture Series, FXPal. 11/06/2009.
• Synergies Between Search and Social Metrics, MediaX Workshop, Stanford University. 8/05/2009. Shamma D. A.
• (we need to talk): conversations, media, and social relationships.
  – HCI Seminar, Department of Computer Science, UIUC. 04/14/09.
  – Cognitive Systems Group Seminar, Department of Electrical Engineering and Computer Science, Northwestern University. 04/13/09.
• Spinning Online: A Case Study of Internet Broadcasting by DJs, CS Colloquium, Pomona College. 11/2008. Shamma D. A.
• Ssshh! I’m watching this: conversational behaviors around real-time video. Union College. 4/8/2010. Shamma D. A.
• Remix, Art, Technology, and Culture. Art Institute of Chicagoâ™Department of Film and Media. 2007. Shamma D. A., Shepard, R.
• The Web as Artistic Medium. Institute for Human and Machine Cognition. Pensacola, Florida.

SELECTED AWARDED PATENTS
(from 11 total awarded, 27 currently filed)
• C. Jones, D. Shamma, and E. Churchill. Synchronization of advertisement display updates with user revisitation rates, July 8 2014. US Patent 8,775,945
• K. Weber, S. Tripodi, and D. Shamma. Harvesting of media objects from searched sites without a user having to enter the sites, May 10 2011. US Patent 7,941,416
• K. Weber, S. Tripodi, and D. Shamma. Harvesting of media objects from searched sites without a user having to enter the sites, Apr. 27 2010. US Patent 7,707,198
MEDIA COVERAGE

- J. Fingas. Your photos are more popular when you use filters, according to yahoo. Engadget, May 2015. http://engt.co/1PreamO
- E. Zolfagharifard. The science of instagram success: Filtered photos are 21% more likely to be viewed—and warmer tones get more comments. DailyMail, May 2015. http://dailym.ai/1Pre8eN
- Finding an image with an image and other feats of computer vision, Ars Technica, Megan Geuss, November 24, 2014.
- Yahoo, Flickr share how social is improving image recognition, search, ZDNet, Rachel King, November 22, 2014.
- ReadWriteWeb “How Developers Are Shaping the Future of Music.” John Paul Titlow. 2/14/2012.
- hypebot “Clyde’s Top Picks From SF Music Hack Day 2012.” Clyde Smith. 2/13/2012.

**ART EXHIBITS, INSTALLATIONS, AND PERFORMANCES**

- News at Seven. Wired NextFest 2007. Los Angeles, California.
- Imagination Environment: David A. Shamma, Kristian Hammond.
  - Emerging Technologies 2004. SIGGRAPH. Los Angeles, California.
- MusicStory: David A. Shamma, Bryan Pardo, Kristian Hammond.
- Buzz: Sara Owlsley, Kristian Hammond, David A. Shamma.
- Handle with Care: Direct Mail and the American Dream: GirlCharlie, Sara Owlsley, Kristian Hammond, David A. Shamma. An installation that immerses spectators in the language of hate, fear and greed found in thousands of pieces of direct mail sent from sweepstakes and right-wing political organizations, solicitations which are largely directed toward the elderly and new Americans. Associative-word technology generates a spontaneous soundtrack inspired by the mail’s vocabular.
Projects

- **Visual Genome.** Collaboration with Fei-Fei Li and Michael Bernstein to build a dataset, a knowledge base, an ongoing effort to connect structured image concepts to language. [http://visualgenome.org/](http://visualgenome.org/)

- **Yahoo Project Weather.** Co-built algorithm to surface 1 million high quality weather images for app editorial.

- **YFCC100M & Multimedia Commons.** Designed and delivered large scale social photography dataset of 100 million photos and videos—collaborating with researchers at ICSI and LLNL as well as Yahoo Academic Relations, Legal, and Privacy teams. [http://mmcommons.org](http://mmcommons.org)

- **Flickr.** Architected and co-built Hadoop platform for Data Science and Computer Vision. Used by Scientists, Front-end engineering, Back-end engineering, and Product managers. Built Photo Recommendations and Trending Tag algorithms that returned $2\times$–$3\times$ results against business KPIs.

- **Yahoo Shopping Taiwan.** Co-built algorithm for social-visual product recommendations (+8.5% sales increase).

- **Open Source Projects.** Contributed and/or active maintainer of several projects including: SIGCHI Document Formats ($\LaTeX$ and Word), pig-mode for Emacs, and others. [https://github.com/ayman](https://github.com/ayman)


- **Fire Eagle.** Yahoo! Fire Eagle is a service that helps users share their location online with their friends and with other sites and services. Built in Ruby on Rails several components, including the API Explorer, co-built the mobile optimized pages, and helped write developer examples and content.
Inline Flickr Viewer. A Flickr photo and video viewer displayed inline in a Yahoo! Messenger conversation window.


interActor. Designed an interactive framework for a halfLife2 mod to support dynamic script based interactions for virtual actors. This includes the ability for virtual actors to autonomously find relevant information online as well as a user-centric dialog model for speech to text applications. http://bit.ly/nr0Rl

Imagination Environment. Art installation which watches media (TV, DVD, Internet news feeds, blogs) and finds related images and media. A complementing suite of Information Retrieval tools were also built as a supporting software structure. http://bit.ly/r1FUZx


CMEX Mars. NASA Ames Research Center with Geoff Briggs (ARC), Alberto Cañas (IHMC), et. al. In a departure from previous digital educational outreach products CMEX Mars uses new browser technology developed at IHMC that center on the use of concept maps. NASA High School Educational Outreach. http://cmex.ihmc.us/

IHMC CMap Tools. with Alberto Cañas, Pat Hayes, et. al. The IHMC Concept Mapping Software empowers users to construct, navigate, share, and criticize knowledge models represented as Concept Maps. The toolkit allows the users to build, and collaborate during the construction of concept maps with colleagues anywhere on the network, as well as, share and navigate through others’ models distributed on servers throughout Internet. http://cmap.ihmc.us/

System to Organize Representations in Meteorology (Storm-LK) with Ken Ford, Robert Hoffman, et. al. The STORM-LK project was intended to illustrate the application of the principles of Human-Centered Computing (HCC). The domain of weather forecasting was selected for study, with the goal of creating a “cognitive prosthesis”—a computational system that leverages and extends human intellectual, perceptual, and collaborative capacities. http://bit.ly/nFcXr

Survey Application Robust Templated Runtime Environment (SARTRE). Master’s Project. Automatically deploy, administer, and collect survey data from computer-novice consumer panelists using hand held (Apple Newton & PalmOS) computers. Funded by Proctor and Gamble

PROFESSIONAL SERVICE

General Chair
Steering Committee

Editorial
- *Co-Editor Arts & Digital Culture* ACM SIGMM, Association for Computing & Machinery’s Special Interest Group for Multimedia. (2/12–present)
- *Curator, Multimedia* XSEAD. XSEAD is an community platform for those working to advance engineering and science through design and the arts. (10/2012–6/2014)

Technical Program Committees

Other Committees
- TVX Demos Chair (2014).
- ACM Creativity & Cognition: Workshops Chair (2013).
- TOMCCAP: ACM MM 2012 Best Papers & Best Student Papers Co-Editor.
- Elsevier’s Entertainment Computing, Editorial Board Member, Section Editor for Interactive Television (2012)
- MobileHCI: Demos and Exhibitions Co-chair (2012).
- ACM WWW: TPC Member (2010-2012).
- ACM Creativity & Cognition, Publicity Chair (2009).

Reviewer
- AAAI Conference on Weblogs and Social Media (2008-present).
- ACM CHI (2008-present).
- ACM CSCW (2008-present).
- TEI 2010.
- NSF Merit Award Reviewer (2008).
ADVISING/MENTORING

Post-docs

Thesis Committees
- Sanjay Kairam, Computer Science, Stanford, Ph. D. (2016)
- Saeideh Bakhshi, GVU, Georgia Tech, Ph. D. (2014)

Intern Supervision
- Dan Tasse, CMU, Ph. D. (2015)
- Saeideh Bakhshi, GVU, Georgia Tech, Ph. D. (2013)
- Zach Toupes, Texas A&M, Ph. D. (2011)
- Yiming Liu, iSchool, UC Berkeley, M. S. (2008)
- Ryan Shaw, iSchool, UC Berkeley, Ph. D. (2007)

PROFESSIONAL MEMBERSHIPS
- ACM, Senior Member (2012–present)
- ACM, Member (2001–2012)
- IEEE (1997–2001)

AWARDS, HONORS, and OTHER ACTIVITIES
- Yahoo Master Inventor Award. 2015. 27 patents filed, 11 awarded.
- Yahoo CEO/Marissa Mayer Challenge, Team Winner. 2014.
- ACM Senior Member awarded 2012.
- August 2005 Awarded 1st Dan, Kukkiwon (WTF) Taekwondo.
- 2004–2005 CS Chair’s Advisory Committee, Northwestern University Graduate Student Advisor to the Department Chair Graduate Student Representative, Building Committee
- August 2004 Terminal Year Fellowship. Graduate School, Northwestern University.
- October 2001 Murphy Fellowship. Department of Computer Science, Northwestern University.
• March 2000 Synopsis, Santa Clara County California Science Fair Judge, Physics, 8th Grade Division.
• March 1999 Escambia/Santa Rosa County Florida Science Fair Judge, Computer Science, High School division.
• Spring 1998 Outstanding Graduate Student Award (Masters). Computer Science, College of Science and Technology. The University of West Florida.
• June 1997 Web Site Awarded Featured Academic Site by InterNIC.
• December 1995 Winner of Annual Lego Robot Competition, IHMC. (with Daniel Butler)