

David Ayman Shamma, Ph.D.

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EDUCATION

2001–2005	Ph.D.	Northwestern University , <i>Doctor of Philosophy</i> , Computer Science.
1996–1999	M.S.	The University of West Florida , <i>Masters of Science</i> , Computer Science.
1991–1996	B.S.	The University of West Florida , <i>Bachelor of Science</i> , Computer Science.

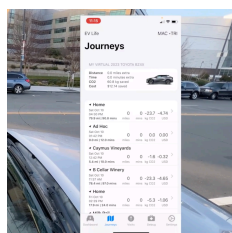
EXPERIENCE

4/21–3/25	Toyota Research Institute (TRI) , <i>Staff Research Scientist</i> , Los Altos California. <ul style="list-style-type: none">Leading research creating interventions for decreasing CO₂ output.Creating Human centered interfaces for BEV & PHEV driving and charging coaching.Architect and built data science platform for CAN300 vehicle telemetry.
8/20–12/20	Roche Institute of Technology , <i>Adjunct Instructor</i> , San Francisco, California (Remote).
7/17–6/20	FX Palo Alto Laboratory (FXPAL) , <i>Senior Research Scientist</i> , Palo Alto California. <ul style="list-style-type: none">Led research in VR, AR, and 360° conferencing.Applied research in remote sensing to shared work environments products.Engineered Edge-AI systems and fabricated 3D prototypes for smart enterprise and consumer cameras.
8/16–7/17	Centrum Wiskunde & Infomatica (CWI) , <i>Principal Investigator</i> , Amsterdam Netherlands. <ul style="list-style-type: none">Built technology for Redbull Playrooms: smart spaces research for BLE activity tracking.Led team of 7 researchers plus collaborations with BYBORRE fashion and Clever°Frank design.Won Silver European Design Award 2017, BNO Infographics Jaarprijs Honorable Mention, FWA June 25 2017.
4/12–4/16	Flickr & Yahoo Labs , <i>Director of Research</i> , San Francisco Bay Area, California. <ul style="list-style-type: none">Built cross-functional applied research team of 17 PhDs, engineers, and interns in HCI, Data Science, AI, UXR, and Product.Launched feed recommendation engine (test results showed $\geq 2\times$ lift in day 1, 7, and 28 retention).Led research at Flickr and co-built the Hadoop Data Science platform.Cross-managed product and research engineering groups.
7/06–4/12	Yahoo Labs , <i>Scientist</i> , San Francisco Bay Area, California. <ul style="list-style-type: none">Bootstrapped research in synchronous and second screen interactions.Launched Zync (synchronous video watch parties in messenger) which obtained 700k MAUs via stealth launch.
2/14–5/14	National University of Singapore , <i>Senior Research Fellow</i> , (Sabbatical). <ul style="list-style-type: none">Led research group on social and ubiquitous apps for connected trail experiences.Build mobile app that received National Heritage Board Recognition and Funding.
8/05–6/06	Intelligent Information Laboratory , <i>Postdoc</i> , EECS, Northwestern University. Evanston, Illinois. <ul style="list-style-type: none">Led architecture on research platform for avatar based news reporting.Built social asynchronous music platform for karaoke.
12/99–8/01	NASA Ames Research Center , <i>Researcher</i> , Center for Mars Exploration, Moffett Field, California. <ul style="list-style-type: none">Led UX for CMapTools: a diagrammatic knowledge modeling and sharing toolkit.

PATENTS and SELECTED AWARDS & HONORS

- Patents: 101 publications across 31 families.
- Work featured in the New York Times, Wired Magazine, the US Library of Congress, and other venues.
- ACM Recognition of Excellent Service (2019)
- [European Design Award](#): Silver (2017)
- ACM Distinguished Member (2016)
- Yahoo Master Inventor Award (2015)
- Yahoo CEO (M. Mayer) Challenge Winner (2014)
- [Music Hackday San Francisco](#): $2\times$ winner (2010)
- Kukkiwon Taekwondo: Awarded 1st Dan (2005)

Projects



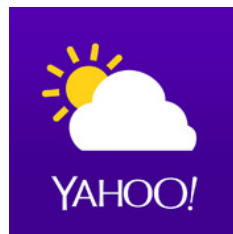
EV Life/DriveStats. Created a mobile application as a research probe to present counterfactuals to individuals based on their driving habits. Research studies showed people would think more about carbon and potentially change their behaviors. The core iOS package is available as [open source](#).



Redbull Playrooms. I lead the technology team at the Redbull Playrooms at the 2017 Amsterdam Dance Event coordinating research efforts between ByBorre (Fashion Designer), CWI (Computer Science Research) and RedBull (Event Organizer) to build wearables for the night club of the future. For more information, see the related research papers (above) and the summary video on [Redbull TV](https://win.gs/2D1ZpZv) (<https://win.gs/2D1ZpZv>).



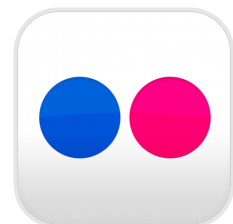
Visual Genome. Collaboration with Fei-Fei Li and Michael Bernstein to build a dataset, a knowledge base, an ongoing effort to connect structured image concepts to language. <http://visualgenome.org/>



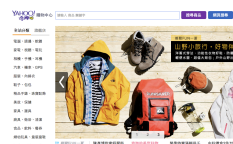
Yahoo Project Weather. Co-built algorithm to surface 1 million high quality weather images for app editorial.



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>



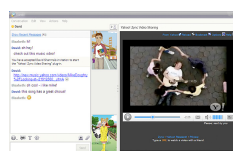
Flickr. Architected and co-built Hadoop platform for Data Science and Computer Vision. Used by Scientists, Front-end engineering, Back-end engineering, and Product managers. Built Photo Recommendations and Trending Tag algorithms that returned $2 \times - 3 \times$ results against business KPIs.



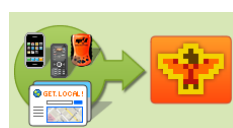
Yahoo Shopping Taiwan. Co-built algorithm for social-visual product recommendations (+8.5% sales increase).



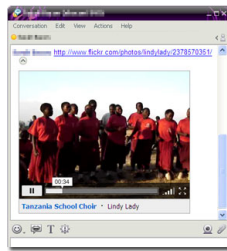
Open Source Projects. Contributed and/or active maintainer of several projects including: SIGCHI Document Formats (\LaTeX and Word), pig-mode for Emacs, and others. <https://github.com/ayman>



Zync. A plugin for Yahoo! Messenger which enables the synchronous sharing of web video. <http://bit.ly/hVyXcE> <http://bit.ly/oNTofV>



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.

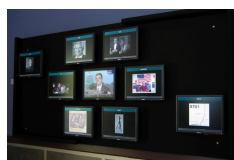


Inline Flickr Viewer. A Flickr photo and video viewer displayed inline in a Yahoo! Messenger conversation window.

- **Karaoke Callout & VocalSearch.** Adapted and optimized a query-by-humming system for mobile phone usage in a competitive singing game with a purpose. <http://bit.ly/oLEj1H>

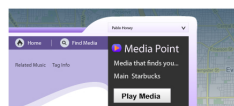


interActor. Designed an interactive framework for a halfLife2 mod to support dynamic script based interactions for virtual actors. This includes the ability for virtual actors to autonomously find relevant information online as well as a user-centric dialog model for speech to text applications. <http://bit.ly/nr0Rlj>

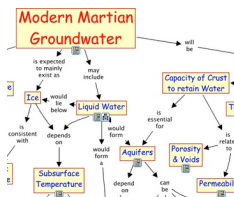


Imagination Environment. Art installation which watches media (TV, DVD, Internet news feeds, blogs) and finds related images and media. A complementing suite of Information Retrieval tools were also built as a supporting software structure. <http://bit.ly/r1FUZx>

- **MusicStory.** Projects popular association based related images of the lyric of a song in time to the audio's beat. <http://bit.ly/oLEj1H>



MediaPoint. An exploration in securely delivering media to network locations, targeted at WiFi hotspots. <http://bit.ly/pSo0AQ>



CMEX Mars NASA Ames Research Center with Geoff Briggs (ARC), Alberto Cañas (IHM), 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/nFcXry>
- **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

ART EXHIBITS, INSTALLATIONS, AND PERFORMANCES

- Lóng Guang. <https://vimeo.com/69868449> 2013. GLOdance, Tek*. Uki. New South Wales. Australia.
- the Light Dress. 2010. In Light. Richmond, North Carolina.
- Graffiti Dance. 2009. Berkeley, California.
- Zync Video Sharing. Wired NextFest 2007. Los Angeles, California.
- News at Seven. Wired NextFest 2007. Los Angeles, California.
- Imagination Environment: David A. Shamma, Kristian Hammond.
 - Wired NextFest 2006. The Future of Communication. New York.

- Wired NextFest 2005. The Future of Communication. Navy Pier, Chicago.
 - Emerging Technologies 2004. SIGGRAPH. Los Angeles, California.
 - Second City Chicago. 4/2004–6/2005. Piper's Alley. Chicago, Illinois.
- MusicStory: David A. Shamma, Bryan Pardo, Kristian Hammond.
 - ACM Multimedia 2005. Singapore.
 - Wired NextMusic 2005. *The Vic Theater*. Chicago, Illinois. Curated by Jeff Tweety.
- Buzz: Sara Owsley, Kristian Hammond, David A. Shamma.
 - Second City Chicago. 2005. Piper's Alley. Chicago, Illinois.
 - Chicago Improv Festival. 2005. Athenaeum Theater. Chicago, Illinois.
 - Performing Imagination. 2004. "*The Association Engine*", Northwestern University.
- Handle with Care: Direct Mail and the American Dream: GirlCharlie, Sara Owsley, 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 vocabulary.
 - Performing Arts Chicago's *PAC/edge: A Convergence of Chicago Artists*. 2004. Athenaeum Theater. Chicago, Illinois.