Ira Kemelmacher-Shlizerman

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CONTACT

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EMPLOYMENT

Assistant Professor (tenure-track), Comp. Science and Eng., University of Washington, Seattle
2013.04 - present

Research Scientist, Facebook
2016.11 - present

Founder & CEO, Dreambit (acquired by Facebook)
2016.05 - 2016.10

Co-director, Graphics and Imaging Laboratory (GRAIL), CSE, University of Washington, Seattle
2013 - present

Consultant, Google (tech transferred “Face Movies”)
2010.03 - 2010.12

EDUCATION

University of Washington, Post-Doc in Computer Science
2009 - 2012
Advisor: Steve Seitz

Weizmann Institute of Science, Ph.D. in Computer Science and Applied Mathematics
2005 - 2009
Advisor: Ronen Basri

Weizmann Institute of Science, M.Sc. in Computer Science and Applied Mathematics
2002 - 2004
Advisor: Ronen Basri

Bar-Ilan University, B.Sc. in Computer Science and Mathematics
1998 - 2001

DISTINCTIONS

"Geek of the week" by Geekwire :-), 2017

Dreambit acquired by Facebook, 2016

"Innovation of the Year Award", 2016

Madrona Prize 1st place, 2015

Best paper award runner up, FDG 2015

Cover Communications of the ACM Research Highlights, 2014

Google Faculty Research Award, 2014

Cover SIGGRAPH, 2011

Face Movies tech transferred to Google, 2011

PUBLICATIONS REFEREED JOURNALS AND CONFERENCE PAPERS

1. Supasorn Suwajanakorn, Steve Seitz, **Ira Kemelmacher-Shlizerman**, Synthesizing Obama: Learning Lip Sync from Audio, ACM Transactions on Graphics (SIGGRAPH), 2017
   In the media: CNN, BBC, Wall Street Journal, TIME, The Atlantic, Radiolab, etc.

2. Aaron Nech and **Ira Kemelmacher-Shlizerman**, Level Playing Field for Million-Scale Face Recognition, IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2017.

3. Shu Liang, Linda Shapiro, **Ira Kemelmacher-Shlizerman,** Head Reconstruction from Internet Photos, European Conference on Computer Vision (ECCV) 2016

4. **I. Kemelmacher-Shlizerman,** Transfiguring Portraits, ACM Transactions on Graphics (SIGGRAPH) 2016
   In the media: The next web, Engadget, TechCrunch, KING5TV, Daily Mail, …
   Basis for Dreambit (acquired by Facebook)

5. **I. Kemelmacher-Shlizerman**, E. Brossard, S. Seitz, D. Miller, The MegaFace Benchmark: Million Faces for Large Scale Recognition. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016
   > 1000 participants. In the media: TechCrunch, UW Today, Daily Mail, The Atlantic, Planet Biometrics, IEEE Spectrum...

6. S. Suwajanakorn, S. Seitz, **I. Kemelmacher-Shlizerman**, What makes Tom Hanks look like Tom Hanks, International Conference on Computer Vision (ICCV), Chile, 2015

In the media: The Atlantic, Mashable, MIT Tech Review, Wired, ...
Madrona Prize, Innovation of the Year by Geekwire, 2016

7. K. Tuite and **I. Kemelmacher-Shlizerman**, The Meme Quiz: A Facial Expression Game Combining Human Agency and Machine Involvement, Foundations of Digital Games (FDG), 2015
   Best paper award runner-up

8. S. Liang, **I. Kemelmacher-Shlizerman**, L. Shapiro, 3D Face Hallucination from a Single Depth Frame, International Conference on 3D Vision (3DV), Tokyo, Dec 2014

9. **I. Kemelmacher-Shlizerman**, E. Shechtman, R. Garg, S. Seitz, Moving Portraits, Comm. of the ACM, Research Highlights, Sep 2014
   Cover of the Communications of the ACM, and video interview by the CACM.

10. S. Suwajanakorn, **I. Kemelmacher-Shlizerman**, S. Seitz, Total Moving Face Reconstruction, European Conference on Computer Vision (ECCV), Zurich, Sep 2014.

11. **I. Kemelmacher-Shlizerman**, S. Suwajanakorn, S. Seitz, Illumination-aware Age Progression, Proc. of Computer Vision Pattern Recognition (CVPR), June 2014.
    Front page of the Seattle Times, TV episodes on the software on CBS, NBC, etc.

12. **I. Kemelmacher-Shlizerman**, Internet-based morphable model. International Conf. Computer Vision (ICCV), Sydney, Dec 2013

13. **I. Kemelmacher-Shlizerman**, R. Basri, B. Nadler, 3D Face Reconstruction from Single Two-tone and Color images, Shape Perception in Human and Computer Vision, Springer, 2013

14. M. Arie-Nachimson, S. Kovalsky, **I.Kemelmacher-Shlizerman**, A.Singer, and R. Basri, Global Motion Estimation from Point Matches, International Conf. on 3D Vision (3DV), 2012.

15. **I. Kemelmacher-Shlizerman** and S.M. Seitz, Collection Flow, Proc. of Computer Vision Pattern Recognition (CVPR), 2012

16. **I. Kemelmacher-Shlizerman**, S.M. Seitz, Face Reconstruction in the Wild, International Conference on Computer Vision (ICCV), 2011

17. **I. Kemelmacher-Shlizerman**, E. Shechtman, R. Garg, S.M.Seitz, Exploring Photobios, ACM Transactions on Graphics (SIGGRAPH) 2011.
    SIGGRAPH back cover and trailer.
    Tech transferred to Google Inc.

18. **I. Kemelmacher-Shlizerman**, A. Sankar, E. Shechtman, S.M. Seitz, Being John Malkovich, European Conference on Computer Vision (ECCV), 2010

19. **I. Kemelmacher-Shlizerman**, R. Basri, 3D Face Reconstruction from a single image

using a single reference face shape, IEEE Trans. on Pattern Analysis and Machine Int. (PAMI), 2010

20. **I. Kemelmacher-Shlizerman**, R. Basri, B. Nadler, 3D Shape reconstruction of Mooney Faces, IEEE Conf. on Computer Vision and Pattern Recog. (CVPR) 2008

21. D. Mahajan, **I. Kemelmacher-Shlizerman**, R. Ramamoorthi, P.N. Belhumeur, A Theory of Locally Low dimensional Light Transport, ACM Trans. on Graphics (SIGGRAPH), 2007

22. R. Basri, D.W.Jacobs, **I.Kemelmacher**, Photometric Stereo with General Unknown lighting, International Journal of Computer Vision (IJCV), 2007

23. **I. Kemelmacher-Shlizerman**, R. Basri, Molding Face Shapes by Example, European Conf. Computer Vision (ECCV), 2006

24. **I. Kemelmacher-Shlizerman**, R. Basri, Indexing with Unknown Illumination and Pose, IEEE Conf. on Computer Vision and Pattern Recog. (CVPR) 2005.

PATENTS (under Ira Kemelmacher-Shlizerman and Irena Kemelmaher)

1. Transfiguring Portraits, I. Kemelmacher-Shlizerman, July 6,2016, US 62/358,749 (Assigned to Dreambit LLC, now assigned to Facebook)

2. Face and Expression Aligned Movies, S.M. Seitz, R. Garg, I. Kemelmacher, US 61/371,934, 2015 (Assigned to Google Inc)

3. Example based 3D reconstruction, R. Basri, I. Kemelmacher, T. Hassner, US 60/750,054, 2009

AFFILIATIONS

Member, IEEE Computer Society
Member, Association of Computing Machinery (ACM)

SERVICE

Area Chair, IEEE Computer Vision and Pattern Recognition (CVPR), 2018

SIGGRAPH, Technical Papers Committee, 2017

Judge (Startup Competition), LDV Vision Summit, New York City, 2017

Area Chair, IEEE Computer Vision and Pattern Recognition (CVPR), 2016

Program Coordination Chair, IEEE Computer Vision and Pattern Recognition (CVPR), 2016

Doctoral Consortium, CVPR 2016

Judge (Startup Competition), LDV Vision Summit, New York City, 2015

Panelist, National Science Foundation (NSF), 2015

Panelist, Intel ISTC, 2015

Program Committee, International Conference on Computational Photography, 2013, 2014

Program Committee, Eurographics 2015

Reviewer for all Computer Vision and Graphics journals and conferences, e.g., ACM SIGGRAPH, SIGGRAPH Asia, Trans. of Graphics, Transactions on Visualization and Computer Graphics, IEEE PAMI, CVPR, ICCV, ECCV, Inter. Conf. Automatic Face and Gesture Recogn. (FG), Journal of Image and Vision Computing, Journal of Computer Vision and Image Understanding, IEEE Signal processing letters

SPEECHES KEYNOTES, INVITED TALKS, SEMINARS

2017 Invited speaker, TEDxVienna, Oct

Invited speaker, Deep Learning Summit, Montreal, Oct

Invited speaker, “Frontier in Video Technology”, July, San Jose

Keynote, LDV Vision Summit, NYC, May

Invited colloquium, TTI Chicago, Chicago, May

Invited lecturer, Winter school for Computer Science and Engineering organized by Takeo Kanade, Yair Weiss, and Alexei Efros at the Israel Institute of Advanced Studies (IIAS), Jerusalem, January Recorded Lectures

Invited speaker, ImageXD workshop, E-Science Institute, UW, March

2016 Invited talk, CVPR Area Chairs Workshop, Vancouver, Feb

Invited talk, Royal Society’s "Imaging in Graphics, Vision and Beyond", Chicheley, UK, May

Keynote, "3D Visual computing - graphics, geometry and imaging" conference, Technion, Israel, May

2015 Invited Guest Speaker, Harvey Mudd College, CA, USA, Nov.
Keynote, EmotiW, ACM International Conference on MultiModal Interaction, Nov.
Judge, Vision Summit 2015, LDV Capital, Manhattan, NY., May.
Invited talk, University of California San-Diego, CS colloq., March.
Invited talk, MIT EECS colloq., April.
Invited talk, University of Texas Austin CS colloq., April.
Invited talk, Cornell University, CS, April.

2014 Distinguished lecture, Jump Trading, Chicago, USA, Dec

Invited talk, “Storytelling with images and videos” workshop with the European Conference on Computer Vision 2014, Zurich, Switzerland, Sep.

Invited talk and consultant, Intellectual Ventures, “Global Good Collaboration”, Bellevue, WA, USA, May.

2013 Invited talk, “Scenes from Video” workshop with the International Conference on Computer Vision, Barossa Valley, Australia, Dec.

Dagstuhl invited seminar on Real-world visual computing, Germany, Oct.

Keynote, National Center for Women and Information Technology (NCWIT) award, Feb.

2012 Invited talk, Facebook, Seattle, Nov.
Invited talk, “At the intersection of Vision, Graphics, Learning and Sensing” Workshop, Microsoft Research, Cambridge, UK
Invited talk, Intel Labs, Santa Clara, May.
Invited talk, EPFL, Lausanne, Switzerland. Apr.
Invited talk, University of Michigan CS, Apr.
Invited talk, Johns Hopkins University, Apr.
Invited talk, Carnegie Mellon, Robotics Institute and CS, Mar.
Invited talk, Stanford University, CS+EE, Mar.
Invited talk, Princeton University, CS colloq.., Mar.
Invited talk, University of Minnesota, CS colloq., Feb.
Invited talk, University of Washington, CS colloq., Feb.

2011 Invited talk, Princeton University, Program for Applied and Computational Mathematics, Feb.
Invited talk, New York University, NYC, Nov.

2010 Invited talk, Adobe, USA, Apr.
Invited talk, Princeton University, Program for Applied and Computational Mathematics, Mar.

2008 Invited talk, Toyota Technological Institute, Chicago, USA, Mar.
Invited talk, Brown University., Mar.

Invited talk, Harvard University, Mar.
Invited talk, California Institute of Technology (CalTech), Mar.

2006 Invited talk, University of Maryland, Aug.
Israel Computer Vision Day, Jan.

SELECTED MEDIA COVERAGE

July 2017	Geekwire	https://www.geekwire.com/2017/ira-kemelmacher-shlizerman/
July 2017	TIME	http://time.com/4862865/barack-obama-speech-lip-syncing-audio-university-of-washington/
July 2017	Wall Street Journal	https://www.wsj.com/articles/the-researchers-who-synthesized-video-of-barack-obama-1500655962
July 2017	CNN	http://www.cnn.com/videos/tech/2017/07/14/orig-obama-lip-sync.cnn
July 2017	BBC	http://www.bbc.com/news/av/technology-40598465/fake-obama-created-using-ai-tool-to-make-phoney-speeches
July 2017	Geekwire	https://www.geekwire.com/2017/uws-lip-syncing-obama-demonstrates-new-technique-turn-audio-clips-realistic-video/
July 2017	Daily Mail	http://www.dailymail.co.uk/sciencetech/article-4686964/Lip-syncing-AI-lets-words-s-mouth.html
July 2017	The Atlantic	https://www.theatlantic.com/technology/archive/2017/07/what-do-you-do-when-you-cannot-believe-your-own-eyes/533154/
Oct 2016	The Atlantic	http://www.theatlantic.com/technology/archive/2016/10/its-bill-murray-a-facial-recognition-algorithm-settles-the-debate/505574/
July 2016	TechCrunch	https://techcrunch.com/2016/07/21/this-amazing-search-engine-automatically-face-swaps-you-into-your-image-results/
July 2016	The next web	http://thenextweb.com/shareables/2016/07/22/search-engine-lets-swap/#gref
July 2016	Engadget	https://www.engadget.com/2016/07/22/dreambit-search-engine/
July 2016	Daily Mail	The ultimate face swap http://www.dailymail.co.uk/sciencetech/article-3702341/The-ultimate-face-swap-New-search-engine-face-hairstyle-reveal-ll-age.html
July 2016	Geekwire	Time for a change? http://www.geekwire.com/2016/uw-dreambit-image-altering-software/
July 2016	IEEE Spectrum	One Million Face Challenge Even the Best Facial Recognition Algorithms

		http://spectrum.ieee.org/tech-talk/computing/software/one-million-faces-challenge-even-the-best-facial-recognition-algorithms
June 2016	The Atlantic	The Ultimate Face Recognition Algorithm http://www.theatlantic.com/technology/archive/2016/06/machine-face/488969/
June 2016	TechCrunch	https://techcrunch.com/2016/06/23/facial-recognition-systems-stumble-when-confronted-with-million-face-database/
June 2016	UW Today	How Well Do Facial Recognition Algorithms cope with a Million Strangers http://www.washington.edu/news/2016/06/23/how-well-do-facial-recognition-algorithms-cope-with-a-million-strangers/
June 2016	TechCrunch	Students demonstrate their Hololens apps after a quarter of VR and AR design http://techcrunch.com/2016/06/10/students-demonstrate-their-hololens-apps-after-a-quarter-of-vr-and-ar-design/
June 2016	GeekWire	The World's First HoloLens Class at UW http://www.geekwire.com/2016/worlds-first-hololens-class-uw-computer-science-students-show-off-mixed-reality-projects/
May 2016	GeekWire	Revealed: The Winners of the 2016 GeekWire Awards http://www.geekwire.com/2016/revealed-winners-2016-geekwire-awards/
Apr 2016	Fusion	MegaFace Face Recognition Challenge http://fusion.net/story/295539/ntechlab-findface-facial-recognition-accuracy-doxing/
Nov 2015	The Atlantic	What Makes Tom Hanks Look Like Tom Hanks http://www.theatlantic.com/technology/archive/2015/12/what-makes-tom-hanks-look-like-tom-hanks/419238/
Nov 2015	MIT Tech Review	Software reconstructs famous faces from still images captures their unique manerisms http://www.technologyreview.com/view/544346/software-reconstructs-famous-faces-from-still-images-captures-their-unique-mannerisms/
Oct 2015	GeekWire	Digital 3D Face Reconstruction Technology wins top prize at UW CSE showcase event http://www.geekwire.com/2015/digital-3d-face-reconstruction-technology-wins-top-prize-at-uw-computer-science-showcase-event/
Jun 2015	Engadget	Celebrities get digital puppets created from paparazzi photos http://www.engadget.com/2015/06/14/digital-puppets-from-photos/
Jun 2015	New Scientist	A Kevin Spacey CGI puppet - recreated entirely from paparazzi shots ow.ly/O9fP1 youtu.be/jZgSEsrv3LQ
Nov 2014	CBS	Special TV Episode on Aging Software

	"Innovation Nation"	http://cbsdreamteam.com/the-henry-fords-innovation-nation/episodes/aging-software/
Oct 2014	Geekwire	Total Moving Face Reconstruction http://www.geekwire.com/2014/cse-uw/
Oct 2014	Fox News	How age progression software helps find missing kids http://www.foxnews.com/tech/2014/10/17/how-age-progression-software-helps-find-missing-kids/
Oct 2014	Inside Science	TV Episode: Photos on Fast Forward, Marsha Lewis http://www.insidescience.org/content/photos-fast-forward/2186
Sep 2014	Intel Labs	http://blogs.intel.com/intellabs/2014/09/04/technology-can-help-bring-missing-children-home/
Sep 2014	ACM	Moving Portraits, Tom Geller https://vimeo.com/103455569
May 2014	NBC's Today Show	What will I look like at 60? New computer program gives sneak peek http://www.today.com/health/what-will-i-look-60-new-computer-program-gives-sneak-2D79656260
May 2014	The Seattle Times front page (#1 read article online)	What will you look like when you grow old? UW has software to show you, Erik Lanitis http://seattletimes.com/html/localnews/2023564592_agingsoftwarexml.html
Apr 2014	Daily Mail UK	All grown up! http://www.dailymail.co.uk/sciencetech/article-2601373/Age-progression-software-lets-child-look-like-grow-up.html
Apr 2014	TV and radio interviews NPR, KIROTV, KOMO, KING5	NPR/KUOW, KIROTV, KOMO4, KING5 http://homes.cs.washington.edu/~kemelmi/press.html
Apr 2014	Wired UK	Software shows your child's future face, Olivia Solon http://www.wired.co.uk/news/archive/2014-04/14/ageing-faces
Apr 2014	GeekWire	Future faces: Software lets parents see what their kids will look like in 50 years Taylor Soper http://www.geekwire.com/2014/software-lets-parents-see-kids-will-look-like-50-years/
2011	KING 5 TV interview	Faces age through time with 'Face Movie', Meg Coyle http://www.king5.com/video/featured-videos/Animated-Digital-Photos-126636958.html
2011	New Scientist	Create an animated biography from your photos, Melissae Fellet http://www.newscientist.com/blogs/onepercent/2011/08/create-an-animated-biography-f.html

2011	MSNBC	Software traces faces through time, Alan Boyle http://www.nbcnews.com/science/software-traces-faces-through-time-121596?franchiseSlug=sciencemain
2011	CBS News	New photo software can morph faces like Michael Jackson's "Black or White" video, Ysolt Usigan http://www.cbsnews.com/8301-501465_162-20088189-501465.html
2011	Discovery News	Looking animated in your photos Jesse Emspak http://news.discovery.com/tech/looking-animated-in-your-photos-110812.html
2011	GeekWire	UW computer science project automates time-lapse pictures Todd Bishop http://www.geekwire.com/2011/uw-computer-science-project-automates-timelapse-portraits/
2011	Geek.com	Make a "photobio" video from your digital pics using facial recognition software, Jennifer Bergen http://www.geek.com/articles/news/make-a-photobio-video-from-your-digital-pics-using-facial-recognition-software-2011086/
2011	UW press	Digital photos can animate a face so it ages and moves before your eyes Hannah Hickey http://news.cs.washington.edu/2011/08/03/exploring-photobios-on-king5-news/
2010	Kottke	Really being John Malkovich http://kottke.org/11/08/really-being-john-malkovich

TEACHING

CSE 481v and 599:

Virtual and Augmented Reality Capstone
Press: GeekWire article
Spring 2016, Enrollment: 36

CSE 457:

Introduction to Computer Graphics (undergrad), UW CSE
Fall 2015, Enrollment: 30
Winter 2015, Enrollment: 35
Winter 2014, Enrollment: 35

CSE 576:

Computer Vision (grad), UW CSE
Spring 2013

CSE 455

Computer Vision (undergrad), UW CSE

Winter 2010 (with Neel Joshi and Ian Simon)

Weizmann Inst. and earlier
2004-200 Linear Algebra, Discrete Math., The Academic College, Dept Comp. Sci, Israel

2002,2004 Computer and Human Vision, Weizmann Inst.
2008 Advanced topics in computer vision, Weizmann Inst.
2005 Statistical Machine Learning, Weizmann Inst.
2002-2003 C++ programming, Operating Systems, Open University, Israel
2000-2001 Mathematical Logic, Object oriented programming, Bar-Ilan University

ADVISING

POSTDOC

2016 - present	Konstantinos Rematas

PH.D. STUDENTS

2016 - present	Roy Or-El
2013 - 2017	Supasorn Suwajanakorn (now at Google Brain)
2014 - present	Shu Liang
2015 - present	Chung-Yi Weng

MASTER STUDENTS

2016	Aaron Nech (now at Facebook, CVPR'17 paper)
2013 - 2015	Daniel Miller (now at Progeny, CVPR'16 paper)

UNDERGRADUATE STUDENTS

2016 -	David Porter, UW CSE
2016	Dylan Swiggett, UW CSE (now at Google)
2015	Evan Brossard, UW CSE (CVPR'16 paper)
2014	Lukas Bischofberger (now at ETH Zurich)
2013	Xiaotao Chen (now at eBay)
2013	Elliott Brossard (now at Google)
2013	Daniel Graf (now at ETH Zurich)

FUNDING

UW VR Center

“Simulation and Improving Facial Aging” (PI) 2016 - present

“The 3D Memex for Virtual Teleportation”, Source: NSF Medium / Intel (co-PI), 2015 - 2018

“Capturing and Modeling the Space of Faces”, Source: Google Faculty Award (PI), 2014

“3D Face Analysis for Face Recognition”, Source: Samsung, USA (PI), 2014 - present

“People Analysis in Perceptual Computing”, Source: Intel ISTC Center (co-PI), 2013

“3D Face Modeling from RGBD”, Source: Intel (co-PI), 2013

NVIDIA, 2014