

Geneviève Patterson

CONTACT INFORMATION	1 Memorial Drive Cambridge, MA 02141 USA	home: +1 520 275 3170 e-mail: gen@microsoft.com website: genp.github.io
CURRENT POSITION	Microsoft Research New England , Cambridge, Massachusetts, USA <i>Post-Doctoral Researcher</i>	July 2016 – current
EDUCATION	Brown University , Providence, Rhode Island, USA <i>PhD Computer Science</i> <ul style="list-style-type: none">• Advisor: Associate Professor James Hays, Georgia Tech College of Computing• Dissertation: Collective Intelligence: Crowd-Driven Image Understanding The University of Tokyo , Hongo, Bunkyo-ku, Tokyo <i>Master of Electrical Engineering</i> <ul style="list-style-type: none">• Advisor: Associate Professor Takafumi Koseki, Dept. of Electrical Eng. and Information Systems• Dissertation: Fundamental Modeling for Optimal Design of Transverse Flux Motors The University of Arizona , Tucson, Arizona, USA <i>BS Mathematics, BS Electrical Engineering (Hons)</i>	September 2010 – May 2016 October 2007 – September 2009 August 2003 – May 2007
PUBLICATIONS	Cashman, D., G. Patterson, A. Mosca, R. Chang, “RNNbow: Visualizing the Learning Process in Recurrent Neural Networks,” <i>VADL 2017: Workshop on Visual Analytics for Deep Learning, IEEE VIS 2017</i> . Phoenix, AZ, USA. October 2017. <i>Best Paper</i> . Patterson, G., J. Hays, “COCO Attributes: Attributes for People, Animals, and Objects,” <i>European Conference for Computer Vision (ECCV 2016)</i> . Amsterdam, The Netherlands. October 2016. Lam, D., G. Patterson, “Kaizen: The Crowd Pathologist,” <i>HCOMP 2016, GroupSight workshop</i> . Austin, TX USA. 2016. Patterson, G., G. Van Horn, J. Hays, S. Belongie, P. Perona, “Tropel: Crowdsourcing detectors with minimal training,” <i>Human Computation and Crowdsourcing (HCOMP 2015)</i> . San Diego, USA. November 2015. <i>Best Paper Award Finalist</i> . Patterson, G., C. Xu, H. Su, J. Hays, “The SUN Attribute Database: Beyond Categories for Deeper Scene Understanding,” <i>International Journal of Computer Vision</i> . May 2014, Volume 108, Issue 1-2, pp 59-81. Patterson, G., G. Van Horn, S. Belongie, P. Perona, J. Hays, “Bootstrapping Fine-Grained Classifiers: Active Learning with a Crowd in the Loop,” <i>NIPS 2013, Crowd workshop</i> . Lake Tahoe, NV USA. Dec 5-10, 2013. Patterson, G. T. Lin, J. Hays, “Using Humans to Build Mid-Level Features,” <i>CVPR 2013, Scene Understanding Workshop</i> . Portland, OR USA. June 25-27, 2013. Xiao, J., J. Hays, B. Russell, G. Patterson, K. Ehinger, A. Torralba, A. Oliva, “Basic level scene understanding: categories, attributes and structures,” <i>Frontiers in Psychology</i> . August 2013. Patterson, G., J. Hays, “SUN attribute database: Discovering, annotating, and recognizing scene attributes,” <i>CVPR 2012</i> . Providence, RI USA. June 16-21, 2012. Patterson, G., J. Hays, “Building a Taxonomy of Attributes for Fine-Grained Scene Understanding,” <i>CVPR 2011, Fine Grained Computer Vision Workshop</i> . Colorado Springs, USA. June 20-25, 2011. Patterson, G., T. Koseki, Y. Aoyama, K. Sako, “Simple Modeling and Prototype Experiments for a New High-Thrust, Low-Speed Permanent Magnet Disk Motor,” <i>Proc. 12th International Conference on Electrical Machines and Systems</i> , Tokyo, Japan. Nov 2009.	

Patterson, G., T. Koseki, “Fundamental Modeling for Optimal Design of Transverse Flux Motors,” *The 2009 Annual Meeting of the IEE Japan*, Vol. 5, pp.17-18, Sapporo, Japan, March 2009.

Koseki, T., G. Patterson, T. Suzuki, “Visual State Feedback Digital Control of a Linear Synchronous Motor using Generic Video-Camera Signal,” *Proc. 11th International Conference on Electrical Machines and Systems*, Wuhan, China. Oct 2008.

Lee K. S., Kim C. S., Kim R. K., Patterson G., Kolesik M., Moloney J. V., Peyghambarian N., “Dual-wavelength external cavity laser with a sampled grating formed in a silica PLC waveguide for terahertz beat signal generation,” *Applied Physics B, Lasers and Optics*, Vol. 87 No. 2. April 2007.

IN SUBMISSION/
TO APPEAR

To Appear: Peck, D., G. Patterson, L. Mackey, V. Syrgkanis, “Visualizing the differences in visual primitives used by CNNs and radiologists,” *SPIE Medical Imaging*. Houston, TX, USA. February 2018.

To Appear: Patterson, G., D. Greene, “How AI Sees Crime,” *IEEE Spectrum Magazine*.

In Submission: Kaspar, A., G. Patterson, C. Kim, Y. Aksoy, M. A. Elgharib, W. Matusik. “Crowd-Guided Ensembles: How Can We Choreograph Crowd Workers for Video Segmentation?”

BOOKS

Visual Attributes, Editors: Rogerio Schmidt Ferris, Christoph Lampert, Devi Parikh, Chapter 12.

GRANTS

Patterson, G., D. Merck, J. Hays, “*CVD²*: Computer Vision Detection for Cerebrovascular Disease,” *Brown University BIBS/NPNI Research Award*. June 2015.

TEACHING
EXPERIENCE

Instructor, *Deep Learning for Computer Vision*, Tufts University, COMP-150DL, Spring 2017.
<http://comp150dl.github.io>.

Instructor, *Data-driven Computer Vision*, Brown University, CSCI 2951T, Spring 2016.
<http://cs.brown.edu/courses/csci2951-t/>.

INDUSTRY
EXPERIENCE

Clarifai, New York, New York, USA

Internship

December 2013 – February 2014

Member of research and development team for new computer vision products.

IBM Corporation, Tucson, Arizona, USA

Software Developer, Internship

May 2005 – September 2007

Developed graphical user interface and network statistics graphing software for IBM enterprise class servers.

HONOURS AND
AWARDS

HCOMP 2015 Best Paper Award Runner Up

Finalist - Facebook Graduate Research Fellowship 2013

National Defense Science and Engineering Graduate Fellowship 2010-2013

ICEMS 2009 Conference Award for Outstanding Paper and Technical Excellence

Japanese Ministry of Education Monbukagakusho Scholarship 2007 - 2009

University of Arizona President’s Award for Excellence 2003-2007

University of Arizona Provost Scholarship 2003 - 2007

COMMUNITY
ACTIVITIES

GroupSight Second Workshop on Human Computation for Image and Video Analysis HCOMP 2017, workshop co-organizer

GroupSight Workshop on Human Computation for Image and Video Analysis HCOMP 2016, workshop co-organizer

COCO Challenge ICCV 2017, workshop co-organizer

MS COCO Challenge ECCV 2016, workshop co-organizer

MS COCO Challenge ICCV 2015, workshop co-organizer

IgniteCS Instructor Spring 2015 (Middle School introduction to programming course)

Ivy Labs Instructor - Computer Science History 2014, 2015 (Summer program for international HS students at Brown University)
Faculty Graduate Liaison, Department of Computer Science, Brown University Jan 2014-Jan 2015
LDV Vision Summit 2014, 2015 Challenge Coordinator
GirlsGetMath 2014 (Brown University High school summer program) Instructor
Summer@Brown 2012 (Brown University High school summer program) Guest Lecturer
Brown University Artemis Program 2012, 2014 Guest Lecturer
MIT Splash Program 2010 Instructor, Topic: Trains in Japan

REFERENCES

Available on request from:

- Professor James Hays (Georgia Tech)
- Professor Serge Belongie (Cornell Tech)
- Dr. Adam Kalai (MSR NE)
- Professor Pietro Perona (Caltech)
- Dr. Lester Mackey (MSR NE)

LANGUAGES

English (native), Spanish (fluent), Japanese (intermediate).