

# Ranjitha Kumar

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## EDUCATION

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<b>Stanford University</b> , Stanford CA	2003 - 2014
PhD in Computer Science, January 2014 Dissertation: <i>Design Mining the Web</i> Committee: Scott R. Klemmer (ADVISOR), Pat Hanrahan, Terry Winograd, Michael Bernstein	
BS in Computer Science with Honors, June 2007 Thesis: <i>Volume Preserving Sinusoidal Muscles for Surface Skinning</i> Advisor: Ron Fedkiw	

## EMPLOYMENT

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<b>Assistant Professor of Computer Science</b> , University of Illinois at Urbana-Champaign	2014 - present
and (by courtesy) of <b>Electrical and Computer Engineering</b>	2015 - present
<b>Founder &amp; Chief Scientist</b> , Apropose, Inc. (Mountain View, CA) \$2.3M in seed funding from A16z & NEA	2013 - 2016
<b>Graduate Research Assistant</b> , Stanford University (Stanford, CA)	2007 - 2013
<b>Creative Technologies Lab Intern</b> , Adobe Systems Inc. (San Francisco, CA)	Summer 2009

## HONORS AND AWARDS

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Amazon Research Award ( <i>An Experimentation Engine for Personal Fashion</i> )	2018
AWS Machine Learning Research Award ( <i>Using Fashion to Learn Material Similarities</i> )	2018
NSF CAREER Award ( <i>Tying Designs to Outcomes</i> )	2018
Google Faculty Research Award ( <i>Design Mining Android Apps at Scale</i> )	2016, 2017
Adobe Systems Research Award ( <i>Probabilistic Generative Models for Mobile Design</i> )	2017
List of Teachers Ranked as Excellent by their Students (CS 199RK)	Spring 2015
ACM CHI Best Paper Award ( <i>Webzeitgeist</i> )	2013
ACM UIST Best Paper Nomination ( <i>Grammar Induction</i> )	2012
Google PhD Fellowship in Design Development	2011-2013
ACM CHI Best Paper Award ( <i>Bricolage</i> )	2011
NSF Graduate Research Fellowship Competition, Honorable Mention	2007, 2008
Computer Research Association Outstanding Undergraduate Awards, Honorable Mention	2007
National Merit Finalist	2002

## PEER-REVIEWED PUBLICATIONS

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- Kristen Vaccaro, Tanvi Agarwalla, Sunaya Shivakumar, and Ranjitha Kumar. **Designing the Future of Personal Fashion**. *Proc. CHI: the 36th Annual ACM SIGCHI Conference on Human Factors in Computing Systems*, April 2018.
- Biplab Deka, Zifeng Huang, Chad Franzen, Jeffrey Nichols, Yang Li, and Ranjitha Kumar. **ZIPT: Zero-Integration Performance Testing of Mobile App Designs**. *Proc. UIST: the 30th ACM Symposium on User Interface Software and Technology*, October 2017.
- Biplab Deka, Zifeng Huang, Chad Franzen, Joshua Hibschan, Daniel Afegan, Yang Li, Jeffrey Nichols, and Ranjitha Kumar. **Rico: A Mobile App Dataset for Building Data-Driven Design Applications**. *Proc. UIST: the 30th ACM Symposium on User Interface Software and Technology*, October 2017.
- Ranjitha Kumar and Kristen Vaccaro. **An Experimentation Engine for Data-Driven Fashion Systems**. *Proc. AAAI Symposium on Designing the User Experience of Machine Learning Systems*, March 2017.
- Kristen Vaccaro, Sunaya Shivakumar, Ziqiao Ding, Karrie Karahalios, and Ranjitha Kumar. **The Elements of Fashion Style**. *Proc. UIST: the 29th ACM Symposium on User Interface Software and Technology*, October 2016.
- Biplab Deka, Zifeng Huang, and Ranjitha Kumar. **ERICA: Interaction Mining For Mobile Apps**. *Proc. UIST: the 29th ACM Symposium on User Interface Software and Technology*, October 2016.

Haizi Yu, Lav R. Varshney, Guy E. Garnett, and Ranjitha Kumar. **Learning Interpretable Musical Compositional Rules and Traces.** *Proc. WHI: the ICML Workshop on Human Interpretability in Machine Learning*, June 2016.

Haizi Yu, Lav R. Varshney, Guy E. Garnett, and Ranjitha Kumar. **MUS-ROVER: A Self-Learning System for Musical Compositional Rules.** *Proc. MUME: the 4th International Workshop on Musical Metacreation*, June 2016.

Haizi Yu, Biplab Deka, Jerry O. Talton, and Ranjitha Kumar. **Accounting for Taste: Ranking Curators, Creators, and Content in Social Networks.** *Proc. CHI: the 34th Annual ACM SIGCHI Conference on Human Factors in Computing Systems*, May 2016.

Jingxian Zhang, Neel Kothari, Asad Butt, and Ranjitha Kumar. **What Makes a Brand Look Expensive?** *Proc. CHI EA: the 34th Annual ACM SIGCHI Conference Extended Abstracts on Human Factors in Computing Systems*, May 2016.

Biplab Deka, Haizi Yu, Devin Ho, Zifeng Huang, Jerry O. Talton, and Ranjitha Kumar. **Ranking Designs and Users in Online Social Networks.** *Proc. CHI EA: the 33rd Annual ACM SIGCHI Conference Extended Abstracts on Human Factors in Computing Systems*, May 2015.

Ranjitha Kumar, Arvind Satyanarayan, Cesar Torres, Maxine Lim, Salman Ahmad, Scott R. Klemmer, and Jerry O. Talton. **Webzeitgeist: Design Mining the Web.** *Proc. CHI: the 31st Annual ACM SIGCHI Conference on Human Factors in Computing Systems*, May 2013. BEST PAPER AWARD

Jerry O. Talton, Lingfeng Yang, Ranjitha Kumar, Maxine Lim, Noah D. Goodman, and Radomír Měch. **Learning Design Patterns with Bayesian Grammar Induction.** *Proc. UIST: the 25th Annual ACM Symposium on User Interface Software and Technology*, October 2012. BEST PAPER NOMINEE

Ranjitha Kumar, Jerry O. Talton, Salman Ahmad, and Scott R. Klemmer. **Data-driven Web Design.** *Proc. ICML: the 29th International Conference on Machine Learning*, June 2012. INVITED APPLICATIONS PAPER

Ranjitha Kumar, Jerry O. Talton, Salman Ahmad, Tim Roughgarden, and Scott R. Klemmer. **Flexible Tree Matching.** *Proc. IJCAI: the 22nd International Joint Conference on Artificial Intelligence*, July 2011. INVITED PAPER

Ranjitha Kumar, Jerry O. Talton, Salman Ahmad, and Scott R. Klemmer. **Bricolage: Example-Based Retargeting for Web Design.** *Proc. CHI: the 29th Annual ACM SIGCHI Conference on Human Factors in Computing Systems*, May 2011. BEST PAPER AWARD

Brian Lee, Savil Srivastava, Ranjitha Kumar, Ronen Brafman, and Scott R. Klemmer. **Designing with Interactive Example Galleries.** *Proc. CHI: the 28th Annual ACM SIGCHI Conference on Human Factors in Computing Systems*, April 2010.

Ranjitha Kumar, Juho Kim, and Scott R. Klemmer. **Automatic Retargeting of Web Page Content.** *Proc. CHI EA: the 27th Annual ACM SIGCHI Conference Extended Abstracts on Human Factors in Computing Systems*, April 2009.

## POSTERS, TECHNICAL REPORTS, AND THESES

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Doris Jung-Lin Lee, Jinda Han, Dana Chambourova and Ranjitha Kumar. **Identifying Fashion Accounts in Social Networks.** *KDD Workshop on Machine Learning Meets Fashion*, August 2017.

Ranjitha Kumar. **Design Mining the Web.** *Doctoral dissertation, Stanford University*, January 2014.

Maxine Lim, Ranjitha Kumar, Arvind Satyanarayan, Cesar Torres, Jerry O. Talton, and Scott R. Klemmer. **Learning Structural Semantics for the Web.** *Stanford University CSTR 2012-03*, November 2012.

Ranjitha Kumar. **Data-Driven Interactions for Web Design.** *Adjunct Proc. of UIST: Doctoral Symposium*, October 2012.

Juho Kim, Ranjitha Kumar, and Scott R. Klemmer. **Crowdsourcing Interface for Collecting Correspondences of Web Pages.** *Adjunct Proc. of UIST: Poster*, October 2009.

Ranjitha Kumar. **Volume Preserving Sinusoidal Muscles for Surface Skinning.** *Senior Honors Thesis, Stanford University*, June 2007.

## PATENTS

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Lubomira A. Dontcheva, Ranjitha S. Kumar, and Wilmot Wei-Mau Li. **System and method for using design features to search for page layout designs.** *US Patent 9367523*, filed August 2010, granted June 2016.

## PROFESSIONAL ACTIVITIES

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HCIC Technical Program Committee	2018
KDD Workshop on Machine Learning Meets Fashion Program Committee	2017
NSF IIS-CHS Small Panelist	2017

Springer HCI Series Editorial Board Member	2017
CHI Program Committee	2016, 2017, 2018
UIST Program Committee	2015, 2016, 2017
IUI Program Committee	2017
C&C Program Committee	2017
IUI Poster Program Committee	2013
UIST Poster Program Committee	2011
Reviewer for CHI (2011-2017), UIST (2011-2017), SIGGRAPH ASIA (2012, 2015), IUI (2013, 2017), TWEB (2013), CSCW (2014), WWW (2015), TOMM (2015), C&C (2017), SIGGRAPH (2017)	

## UNIVERSITY AND DEPARTMENTAL SERVICE

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Department Head Search Committee, Computer Science	2017
Assistant Director for Education Search Committee, Siebel Center for Design	2017
Implementation Committee, College of Engineering's ILEE Degree Program	2017
Faculty Search Committee, School of Art + Design	2016
Illinois Innovation Prize Judge	2016, 2017
CS representative, Office of Technology Management Advisory Committee	2015 - 2017
Student Awards Committee, CS Department	2015 - 2017
FAA Committee Member, CS Department	2014 - 2015
Grad Study Committee Member, CS Department	2014 - 2015
Undergraduate Mentor, CS Department	2014 - 2017

## INVITED TALKS & PANELS

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<b>Design is Dead</b>	
Urbana, IL, <i>ACM Reflections   Projections</i>	September 2017
<b>Using Data Analytics to Build Predictive Models for Advertising and Marketing</b>	
Urbana, IL, <i>HS Ad Team Presentation</i>	July 2017
<b>Data-Driven Fashion</b>	
Chicago, IL, <i>Laughlin Constable AI Roundtable</i>	June 2017
Seattle, WA, <i>Amazon</i>	March 2017
<b>Data-Driven Design</b>	
Urbana, IL, <i>UIUC Psychology Brownbag Series</i>	January 2017
San Francisco, CA, <i>Adobe</i>	November 2016
Urbana, IL, <i>Symposium on Frontiers of Big Data</i>	September 2016
Chicago, IL, <i>UIUC CS/ECE alumni networking event @ Uptake</i>	July 2016
Mountain View, CA, <i>Google</i>	June 2016
Pasadena, CA, <i>Caltech IST Lunch Bunch</i>	May 2016
Urbana, IL, <i>Illinois Entrepreneurship Forum: Keynote</i>	April 2016
Champaign, IL, <i>UIUC OTM's "Share The Vision Innovation Showcase"</i>	October 2015
<b>Apropose Panel</b>	
Menlo Park, CA, <i>UIUC TEC's Annual Silicon Valley Workshop</i>	December 2015
<b>Academic Women and Entrepreneurship Panel</b>	
Champaign, IL, <i>UIUC AWARE Program</i>	December 2015
<b>Technology Transfer of HCI Research Innovations: Challenges and Opportunities</b>	
Seoul, South Korea, <i>CHI 2015</i>	May 2015
<b>Advertising at the Intersection of Art &amp; Science</b>	
Urbana, IL, <i>The Sandage Symposium: Progressive Dinner</i>	March 2015
<b>Design Mining the Web</b>	
University of California, San Diego, <i>Design at Large Seminar</i>	October 2013
Princeton University, <i>Department of Computer Science</i>	April 2013

University of Washington, <i>Computer Science &amp; Engineering</i>	April 2013
Harvard University, <i>School of Engineering and Applied Sciences</i>	March 2013
Massachusetts Institute of Technology, <i>Electrical Engineering &amp; Computer Science</i>	March 2013
Cornell University, <i>Department of Information Science</i>	March 2013
University of California, Berkeley, <i>Department of Electrical Engineering and Computer Science</i>	March 2013
Carnegie Mellon University, <i>Human-Computer Interaction Institute</i>	March 2013
University of Illinois at Urbana-Champaign, <i>Department of Computer Science</i>	February 2013
Brown University, <i>Computer Science Department</i>	February 2013

## THESIS ADVISING

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Kristen Vaccaro ( <i>with Karrie Karahalios</i> )	CS PhD (expected 2019)
Konstantinos Koiliaris	CS PhD (expected 2019)
Jinda Han	CS PhD (expected 2021)
Deniz Arsan	CS PhD (expected 2021)
Sujay Khandekar	CS MS (expected 2018)
Thomas Liu	CS MS (expected 2018)
Krishna Dusad	CS MS (expected 2019)
Ziqiao Ding	CS BS (expected 2017)
Qinglin Chen	CS BS (expected 2018)
Mark Craft	CS BS (expected 2019)
Biplab Deka, ECE PhD 2017. <i>Next position: McKinsey &amp; Company</i>	.
Abhishek Harish, CS MS 2016. <i>Next position: Google</i>	
Zifeng (Forrest) Huang, CS BS 2017. <i>Next position: UC Berkeley CS PhD Program</i>	
Hanzi (Amber) Shen, Math & CS BS 2017. <i>Next position: Amazon</i>	
Dana Chambourova, CS BS 2017. <i>Next position: Flexport</i>	
Chad Franzen, CS BS 2017. <i>Next position: Google</i>	
Kedan Li, CS BS 2016. <i>Next position: Fitbit</i>	
Erik Luo, CS BS 2015. <i>Next position: Google</i>	

## TEACHING

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<b>Instructor</b> , UIUC's CS 199US: The Underground Unicorn Seminar	Spring 2018
<b>Instructor</b> , UIUC's TE 100: Introduction to Innovation, Leadership, and Engineering Entrepreneurship	Spring 2018
<b>Instructor</b> , UIUC's CS 498RK: The Art of Web Programming	Fall 2017
<b>Instructor</b> , UIUC's CS 598RK: Data-Driven Design	Spring 2017
<b>Instructor</b> , UIUC's CS 199US: The Underground Unicorn Seminar	Spring 2017
<b>Instructor</b> , UIUC's CS 498RK: The Art of Web Programming ( <i>Instructor: 4.2, Course: 4.5</i> )	Fall 2016
<b>Instructor</b> , UIUC's CS 498RK: The Art and Science of Web Programming ( <i>Instructor: 3.9, Course: 4.2</i> )	Spring 2016
<b>Instructor</b> , UIUC's CS 598RK: Data-Driven Design ( <i>Instructor: 4.5, Course: 4.5</i> )	Fall 2015
<b>Instructor</b> , UIUC's CS 498RK: The Art and Science of Web Programming ( <i>Instructor: 3.8, Course: 4.0</i> )	Spring 2015
<b>Instructor</b> , UIUC's CS 199RK: Research with Design, Data, and the Web ( <i>Instructor: 4.9, Course: 4.6</i> )	Spring 2015
<b>Instructor</b> , UIUC's CS 598RK: Data-Driven Design ( <i>Instructor: 4.3, Course: 4.3</i> )	Fall 2014
<b>Course Assistant</b> , Stanford's CS 147: Introduction to HCI Design	Fall 2008
<b>Stanford Teaching Fellow</b> , Stanford's CS 148: Introductory Computer Graphics	Summer 2008
<b>Course Assistant</b> , Stanford's CS 148: Introductory Computer Graphics	Summer 2007
<b>Instructor</b> , Stanford's CS1C: Introduction to Computing at Stanford	Fall 2006

## SELECTED PRESS

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Joseph Dussault. **Can a Machine be Creative?** *Christian Science Monitor*, 12/8/2017.

Kaya Yurieff. **The Future of Getting Dressed: AI, VR, and Smart Fabrics.** *CNNMoney*, 11/13/2017.

David Mercer. **Can Good Design be Cost-Effective?** *UIUC CS Department News*, 10/18/2017.

Maggie Johnson. **Google Research Awards 2016.** *Google Research Blog*, 2/23/2017.

**Innovative Course Enables Students to Create Web Apps for Impact.** *UIUC CS Department News*, 01/03/2017.

**Apropose Closes \$1.875M Funding Round Led by NEA and Andressen Horowitz.** *PR Newswire*, 9/11/2014.

## REFERENCES

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### Scott R. Klemmer

Associate Professor of Cognitive Science  
and Computer Science & Engineering  
University of California at San Diego  
Atkinson Hall, #1601B  
La Jolla, CA 92093  
[srk@ucsd.edu](mailto:srk@ucsd.edu)  
(858) 822-1343

### Pat Hanrahan

Canon USA Professor of Computer Science  
Stanford University  
353 Serra Mall, #370  
Stanford, CA 94305  
[hanrahan@cs.stanford.edu](mailto:hanrahan@cs.stanford.edu)  
(650) 723-8530

### Terry Winograd

Professor Emeritus of Computer Science  
Stanford University  
353 Serra Mall, #338  
Stanford, CA 94305  
[winograd@cs.stanford.edu](mailto:winograd@cs.stanford.edu)  
(650) 723-2780

### David R. Karger

Professor of Computer Science  
Massachusetts Institute of Technology  
The Stata Center, Room G592  
32 Vassar St.  
Cambridge, MA 02139  
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