Ranjitha Kumar
http://www.ranjithakumar.net · @ranjithaskumar · ranjitha@ranjithakumar.net

EDUCATION

Stanford University, Stanford CA   2003 – 2014

PhD in Computer Science, January 2014
Dissertation: *Design Mining the Web*
Committee: Scott R. Klemmer (ADVISOR), Pat Hanrahan, Terry Winograd, Michael Bernstein

BS in Computer Science with Honors, June 2007
Thesis: *Volume Preserving Sinusoidal Muscles for Surface Skinning*
Advisor: Ron Fedkiw

EMPLOYMENT

Chief Research Scientist, UserTesting (San Francisco, CA)   2019 – present

Associate Professor of Computer Science, University of Illinois at Urbana-Champaign   2020 – present

  Assistant Professor   2014 – 2020

Founder & Chief Scientist, Apropose, Inc. (Mountain View, CA) *$2.3M in seed funding from A16z & NEA*   2013 – 2016

Graduate Research Assistant, Stanford University (Stanford, CA)   2007 – 2013

Creative Technologies Lab Intern, Adobe Systems Inc. (San Francisco, CA)   Summer 2009

HONORS AND AWARDS

Rose Award for Teaching Excellence *(UIUC College of Engineering)*   2020

Dean's Award for Excellence in Research *(UIUC College of Engineering)*   2019

C.W. Gear Outstanding Junior Faculty Award *(UIUC Computer Science Department)*   2018

NSF CAREER Award   2018

Amazon Research Award   2017

Google Faculty Research Award   2017

Google Faculty Research Award   2016

List of Teachers Ranked as Excellent by their Students *(CS 199RK)*   Spring 2015

ACM CHI Best Paper Award *(Webzeitgeist)*   2013

ACM UIST Best Paper Nomination *(Grammar Induction)*   2012

Google PhD Fellowship in Design Development   2011 – 2013

ACM CHI Best Paper Award *(Bricolage)*   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

Deniz Arsan, Ali Zaidi, Aravind Sagar, and Ranjitha Kumar. **App-based Task Shortcuts for Virtual Assistants.** *Proc. UIST: the 34th ACM Symposium on User Interface Software and Technology*, October 2021.

Samarth Mishra, Zhongping Zhang, Yuan Shen, Ranjitha Kumar, Venkatesh Saligrama, and Bryan Plummer. **Effectively Using Attributes for Visual Similarity.** *Proc. ICCV: the IEEE International Conference on Computer Vision*, October 2021.

Jinda Han, Qingling Chen, Xilun Jin, Weikai Xu, Wanxian Yang, Suhansanu Kumar, Li Zhao, Hari Sundaram, and Ranjitha Kumar. **FITNet: Identifying Fashion Influencers on Twitter** *Proc. CSCW: the 24th ACM Conference on Computer-Supported Cooperative Work and Social Computing*, October 2021.

Sujay Khandekar, Joseph Higgs, Yuanzhe Bian, Chae Won Ryu, Jerry O. Talton, and Ranjitha Kumar. **A Study of Emoji-first Communication in a Social App** *Proc. WWW: Companion Proceedings of the The Web Conference*, May 2019.

Jerry O. Talton, Krishna Dusad, Konstantinos Koiliaris, and Ranjitha Kumar. **How Do People Sort by Ratings?** *Proc. CHI: the 37th Annual ACM SIGCHI Conference on Human Factors in Computing Systems*, May 2019.

Thomas F. Liu, Mark Craft, Jason Situ, Ersin Yumer, Radomir Mech, and Ranjitha Kumar. **Learning Design Semantics for Mobile Apps** *Proc. UIST: the 31st ACM Symposium on User Interface Software and Technology*, October 2018.

Mariya I. Vasileva, Bryan A. Plummer, Krishna Dusad, Shreya Rajpal, Ranjitha Kumar, and David Forsyth. **Learning Type-Aware Embeddings for Fashion Compatibility** *Proc. ECCV: the 15th Annual European Conference on Computer Vision*, September 2018.

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 Hibschman, Daniel Afergan, 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.

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.

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.

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

Jasmine Yen-Ching Shih, Eric Shaffer, Ranjitha Kumar, and Sujay Khandekar. **Using Visual Analytics to Understand Emoji-first Communication.** *VIS 2019 Poster*, October 2019.

Ranjitha Kumar. **Data-Driven Design: Beyond A/B Testing.** *Proc. CHIIR: the ACM SIGIR Conference on Human Information Interaction and Retrieval*, March 2019. INVITED KEYNOTE ABSTRACT

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 Univeristy*, 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

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

UIST Program Chair	2021
CHI Best Paper Committee Chair	2021
CRA Outstanding Undergraduate Researcher Award Selection Committee	2020
KDD Workshop on "Machine Learning Meets Fashion" Organizer	2019
UIST Best Paper Committee Chair	2019
UIST Publicity Chair	2019
UIST Doctoral Symposium Faculty Panelist	2018, 2020
HCIC Technical Program Committee Chair	2018
KDD Workshop on "Machine Learning Meets Fashion" Program Committee	2017
NSF/CISE Proposal Review Panelist	2017
Springer HCI Series Editorial Board Member	2017
CHI Program Committee	2016, 2017, 2018, 2020, 2021
UIST Program Committee	2015, 2016, 2017, 2019, 2020
IUI Program Committee	2017
C&C Program Committee	2017
IUI Poster Program Committee	2013
UIST Poster Program Committee	2011

Reviewer for CHI (2011–2019), UIST (2011–2019), SIGGRAPH ASIA (2012, 2015), IUI (2013, 2017), TWEB (2013), CSCW (2014), WWW (2015), TOMM (2015), C&C (2017, 2019), SIGGRAPH (2017), ISS (2018), IMWUT (2018), ACM Transactions in Social Computing (2019)

UNIVERSITY AND DEPARTMENTAL SERVICE

Rising Stars Organizing Committee, Computer Science	2019
Advisory and Grievance Committee, Computer Science	2019 – 2020
Tenure-Track Faculty Recruiting Committee, Computer Science	2019 – 2020
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 – 2019
Student Awards Committee, CS Department	2015 – 2017
FAA Committee Member, CS Department	2014 – 2015, 2018 — 19
Grad Study Committee Member, CS Department	2014 – 2015
Undergraduate Mentor, CS Department	2014 – 2019

INVITED TALKS & PANELS

Mobile, Social, and Fashion: Three Stories from Data-Driven Design
Pittsburgh, PA, *Human-Computer Interaction Institute Seminar Series, CMU* February 2020

Bridging Qual and Quant Testing for UX Design
San Francisco, CA, *UserTesting* October 2019

Go for the Rose Gold
Urbana, IL, *Keynote at UIUC's Women In Computer Science Annual Banquet* April 2019
Champaign, IL, *Keynote at UIUC's Society of Women Engineers Annual Banquet* April 2019

Data-Driven Design: Beyond A/B Testing
Glasgow, United Kingdom, *Keynote at ACM SIGIR Conference on Human Information Interaction and Retrieval (CHIIR)* March 2019

Mobile, Social, and Fashion: Three Stories from Data-Driven Design
Berkeley, CA, *BID Seminar, UC Berkeley* February 2019
Toronto, Canada, *TUX Sanders Series Invited Lecture* February 2019
Cambridge, MA, *CSAIL HCI Seminar, MIT* December 2018
Stanford, CA, *Human-Computer Interaction Seminar, Stanford University* November 2018
Seattle, WA, *Apple Tech Talk* November 2018
Seattle, WA, *DUB Seminar, University of Washington* November 2018
Seattle, WA, *Adobe Tech Talk* November 2018

Data-Driven Design
Urbana, IL, *ChicTech Outreach Event Speaker* November 2018

Career Trajectories Panel
Cambridge, MA, *Rising Stars: An Academic Career Workshop for Women in EECS* October 2018

Where's the bubble tea? Mining missing emoji from a social app
Brooklyn, NY, *Emojicon* July 2018

Data-Driven Design
Zurich, Switzerland, *Department of Computer Science, ETH Zurich* June 2018

Designing the Future of Personal Fashion
Montreal, Canada, *Fashion Retailing Conference* April 2018

Data-Driven Design
Urbana, IL, *NCWIT Aspirations in Computing Award Ceremony Speaker* April 2018

Design is Dead
Urbana, IL, *ACM Reflections | Projections* September 2017

Using Data Analytics to Build Predictive Models for Advertising and Marketing
Urbana, IL, *HS Ad Team Presentation* July 2017

Data-Driven Fashion
Chicago, IL, *Laughlin Constable AI Roundtable* June 2017
Seattle, WA, *Amazon* March 2017

Data-Driven Design
Urbana, IL, *UIUC Psychology Brownbag Series* January 2017
San Francisco, CA, *Adobe* November 2016
Urbana, IL, *Symposium on Frontiers of Big Data* September 2016
Chicago, IL, *UIUC CS/ECE alumni networking event @ Uptake* July 2016

Mountain View, CA, *Google*	June 2016
Pasadena, CA, *Caltech IST Lunch Bunch*	May 2016
Urbana, IL, *Illinois Entrepreneurship Forum: Keynote*	April 2016
Champaign, IL, *UIUC OTM's "Share The Vision Innovation Showcase"*	October 2015

Apropose Panel
Menlo Park, CA, *UIUC TEC's Annual Silicon Valley Workshop*	December 2015

Academic Women and Entrepreneurship Panel
Champaign, IL, *UIUC AWARE Program*	December 2015

Technology Transfer of HCI Research Innovations: Challenges and Opportunities
Seoul, South Korea, *CHI 2015*	May 2015

Advertising at the Intersection of Art & Science
Urbana, IL, *The Sandage Symposium: Progressive Dinner*	March 2015

Design Mining the Web
University of California, San Diego, *Design at Large Seminar*	October 2013
Princeton University, *Department of Computer Science*	April 2013
University of Washington, *Computer Science & Engineering*	April 2013
Harvard University, *School of Engineering and Applied Sciences*	March 2013
Massachusetts Institute of Technology, *Electrical Engineering & Computer Science*	March 2013
Cornell University, *Department of Information Science*	March 2013
University of California, Berkeley, *Department of Electrical Engineering and Computer Science*	March 2013
Carnegie Mellon University, *Human-Computer Interaction Institute*	March 2013
University of Illinois at Urbana-Champaign, *Department of Computer Science*	February 2013
Brown University, *Computer Science Department*	February 2013

THESIS ADVISING

PhD

Muhammad Rizky Wellyanto	CS PhD (expected 2024)
Jason Situ	CS PhD (expected 2024)
Deniz Arsan	CS PhD (expected 2021)
Jinda Han	CS PhD (expected 2021)

Biplab Deka, ECE PhD 2017. *Next position:* McKinsey & Company   .

MS

Oliver Melvin, CS MS 2019. *Next position:* Energybox

Aravind Sagar, CS MS 2019. *Next position:* Balyasny Asset Management

Jason Situ, CS BS-MS 2019. *Next position:* UIUC CS PhD Program

Krishna Dusad *(with David Forsyth)*, CS BS-MS 2019. *Next position:* Uber

Qinglin Chen, CS BS-MS 2019. *Next position:* Salesforce

Sujay Khandekar, CS BS-MS 2018. *Next position:* Samsara

Thomas Liu, CS MS 2018. *Next position:* Microsoft

Abhishek Harish, CS MS 2016. *Next position:* Google

BS

Mark Craft, CS BS-MCS 2019. *Next position:* Salesforce

Muhammad Rizky Wellyanto, CS BS 2019. *Next position:* UIUC CS PhD Program

Yuan Shen, CS BS 2019. *Next position:* UIUC CS PhD Program

Krishna Dusad *(with David Forsyth)*, CS BS-MS 2019. *Next position:* Uber

Qinglin Chen, CS BS-MS 2019. *Next position:* Salesforce

Yuanzhe (Rijn) Bian, CS BS 2018. *Next position:* Facebook

Sujay Khandekar, CS BS-MS 2018. *Next position:* Samsara

Tanvi Agarwalla, CS BS 2018. *Next position:* Salesforce

Ziqiao Ding, CS BS 2018. *Next position:* Amazon

Brandon Chen, CS BS 2018. *Next position:* Microsoft

Zifeng (Forrest) Huang, CS BS 2017. *Next position:* UC Berkeley CS PhD Program

Hanzi (Amber) Shen, Math & CS BS 2017. *Next position:* Amazon

Dana Chambourova, CS BS 2017. *Next position:* Flexport

Chad Franzen, CS BS 2017. *Next position:* Google

Sri Vasamsetti, CS BS 2016. *Next position:* Microsoft

Kedan Li, CS BS 2016. *Next position:* Fitbit

Neel Kothari, CS BS 2016. *Next position:* Gigster

Erik Luo, CS BS 2015. *Next position:* Google

RESEARCH GRANTS

Center for Digital Agriculture Seed Funding (lead PI: Hope Michelson) on *Machine Learning to Detect Fertilizer Adulteration in Developing Countries*, 2019.
$50,000

NSF CAREER Grant on *Tying Design to Outcomes: Open-sourced Analytics for Mobile App Testing*, 2018 – 2023.
$514,091

AWS Machine Learning Research Award with David Forsyth on *Using Fashion to Learn Material Similarities*, 2018.
$25,000 + $50,000 AWS Credits

Amazon Research Award for *An Experimentation Engine for Personal Fashion*, 2017.
$70,000 + $10,000 AWS Credits

Adobe Systems research donation for *Probabilistic Generative Models for Mobile Design*, 2017 – 2019.
$47,500

Google Faculty Research Awards for *Design Mining Android Apps at Scale*, 2016, 2017.
$110,000

TEACHING

CS 598RK: HCI for ML, UIUC	Fall 2019
CS 498RK: The Art of Web Programming, UIUC	Spring 2019
TE 100: Introduction to Innovation, Leadership, and Engineering Entrepreneurship, UIUC	Spring 2019
CS 598RK: HCI for ML, UIUC	Fall 2018
TE 100: Introduction to Innovation, Leadership, and Engineering Entrepreneurship, UIUC	Fall 2018
CS 199US: The Underground Unicorn Seminar, UIUC	Spring 2018
TE 100: Introduction to Innovation, Leadership, and Engineering Entrepreneurship, UIUC	Spring 2018
CS 498RK: The Art of Web Programming, UIUC	Fall 2017
CS 598RK: Data-Driven Design, UIUC	Spring 2017
CS 199US: The Underground Unicorn Seminar, UIUC	Spring 2017
CS 498RK: The Art of Web Programming, UIUC	Fall 2016
CS 498RK: The Art and Science of Web Programming, UIUC	Spring 2016
CS 598RK: Data-Driven Design, UIUC	Fall 2015
CS 498RK: The Art and Science of Web Programming, UIUC	Spring 2015
CS 199RK: Research with Design, Data, and the Web, UIUC	Spring 2015
CS 598RK: Data-Driven Design, UIUC	Fall 2014
CS 148: Introductory Computer Graphics, Stanford University	Summer 2008

SELECTED PRESS

Kate Thayer. **An Illinois professor helped develop a new emoji — for bubble tea.** *Chiacago Tribune*, 07/17/2019.

Gabriel Popkin. **How scientists can team up with big tech.** *Nature Career Feature*, 01/29/2019.

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.

Laura Schmitt. **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 Andreessen Horowitz. *PR Newswire*, 9/11/2014.