

# Julia Schwarz

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## EDUCATION

- Ph.D., Human Computer Interaction (expected graduation: December 2014)** 2009-2014  
School of Computer Science, Carnegie Mellon University, Pittsburgh, PA  
Advised by Scott Hudson and Jennifer Mankoff
- B.S., Computer Science with College Honors, *summa cum laude*** 2004-2008  
University of Washington, Seattle, WA. GPA 3.97/4.0

## PROFESSIONAL EXPERIENCE

- Qeexo Co-Founder, Director of Research** 2013 - Present
- Grew R&D team from 2 to 6 full time employees (recruiting & onboarding).
  - Developed 90% of tools and applications (Windows/iOS/Android).
  - Shipped FingerSense prototypes on ~ 10 different device models for ~6 customers.
  - Developed new palm rejection software for iOS, Android.
  - Built prototype to reconstruct 3D finger pose on unmodified Android device.
- Microsoft, Xbox NUI Team Associate Researcher 2** 2012-2013
- Developed prototypes for gestural input techniques used in Kinect for Xbox One.
  - Developed new interaction technique for Kinect on Xbox One that helped replace 'wave to engage' gesture.
- Microsoft Research Research Intern; two summer internships** 2010-2012
- Built a probabilistic input toolkit for the Kinect. Toolkit is published internally at Microsoft, fourth most popular Kinect tool within Microsoft.
  - Developed, evaluated visualization to help people assess credibility on web.
- Google Software Engineering Intern; three summer internships** 2007 - 2009
- Developed live update pipeline as well as analysis tools for large data source.
  - Built prototypes of next-gen search engine; built rapid prototyping framework.
  - Designed, implemented a web API; developed an interactive JavaScript UI.

## PUBLICATIONS

- Chen, X., **Schwarz, J.**, Harrison, C., Mankoff, J., Hudson, S. Air + Touch: Interweaving Touch & In-Air Gestures. *To Appear in Proceedings of 27<sup>th</sup> Annual Conference on User Interfaces and Technology* (Honolulu, Hawaii, October 6 – 9, 2014). UIST '14. ACM, New York, NY.
- Chen, X., **Schwarz, J.**, Harrison, C., Mankoff, J., Hudson, S. Around-Body Interaction: Sensing & Interaction Techniques for Proprioception-Enhanced Input with Mobile Devices. *In Proceedings of the 16<sup>th</sup> Annual International Conference on Human-Computer Interaction With Mobile Devices and Services* (Toronto, Canada, September 24 – 26, 2014). MobileHCI '14. AMC, New York, NY.
- Schwarz, J.**, Xiao, R., Mankoff, J., Hudson, S., Harrison, C. Probabilistic Palm Rejection Using Spatiotemporal Touch Features and Iterative Classification. *In Proceedings of the 32nd Annual SIGCHI Conference on Human Factors in Computing Systems* (Toronto, Canada, April 26 - May 1, 2014). CHI '14. ACM, New York, NY.
- Schwarz, J.**, Marais, C., Leyvand, T., Hudson, S., Mankoff, J. Combining Body Pose, Gaze and Motion to Determine Intention to Interact in Vision-Based Interfaces. *In Proceedings of the 32nd Annual SIGCHI Conference on Human Factors in Computing Systems* (Toronto, Canada, April 26 - May 1, 2014). CHI '14. ACM, New York, NY.

Harrison, C., Xiao, R., **Schwarz, J.**, and Hudson, S. TouchTools: Leveraging Familiarity and Skill with Physical Tools to Augment Touch Interaction. *In Proceedings of the 32nd Annual SIGCHI Conference on Human Factors in Computing Systems* (Toronto, Canada, April 26 - May 1, 2014). CHI '14. ACM, New York, NY.

**Schwarz, J.**, Klionsky, D., Harrison, C., Dietz, P., and Wilson, A. Phone as a Pixel: Enabling Large-Scale Displays Using Mobile Devices. *In Proceedings of 30<sup>th</sup> Annual SIGCHI Conference on Human Factors in Computing Systems* (Austin, Texas, May 5-10, 2012). CHI'12. ACM, New York, NY 1245-1254.

Morris, M.R., Counts, S., Roseway, A., Hoff, A., and **Schwarz, J.** Tweeting is Believing? Understanding Microblog Credibility Perceptions. *In Proceedings of of the 15<sup>th</sup> Annual ACM Symposium on Computer Suported Cooperative Work* (Seattle, Washington, Febuary 12 – 15, 2012). CSCW '12. ACM, New York, NY.

**Schwarz, J.**, Mankoff, J., Hudson, S., Monte Carlo Methods for Managing Interactive State, Action and Feedback Under Uncertainty. *In Proceedings of 24<sup>th</sup> Annual ACM Symposium on User Interface Software and Technology* (Santa Barbara, California, October 16-19, 2011). UIST '11. ACM, New York, NY, 235 - 244.

Harrison, C., **Schwarz, J.** TapSense: Enhancing Finger Interaction on Touch Surfaces. *In Proceedings of 24<sup>th</sup> Annual ACM Symposium on User Interface Software and Technology* (Santa Barbara, California, October 16-19, 2011). UIST '11. ACM, New York, NY, 627 - 636.

**Schwarz, J.**, Ringel Morris, M., Augmenting Web Pages and Search Results to Support Credibility Assessment. *In Proceedings of the 29<sup>th</sup> Annual SIGCHI Conference on Human Factors in Computing Systems* (Vancouver, Canada, May 7 – 12, 2011). CHI '11. ACM, New York, NY, 1245 – 1254.

**Schwarz, J.**, Hudson, S., Mankoff, J., A Robust and Flexible Framework for Handling Inputs with Uncertainty. *In Proceedings of the 23<sup>rd</sup> Annual ACM Symposium on User Interface Software and Technology* (New York, New York, October 3 – 6, 2010). UIST'10. ACM, New York, NY, 47 - 56.

**Schwarz, J.**, Harrison, C., Hudson, S., and Mankoff, J. Cord Input: An Intuitive, High-Accuracy, Multi-Degree-of-Freedom Input Method for Mobile Devices. *In Proceedings of the 28<sup>th</sup> Annual SIGCHI Conference on Human Factors in Computing Systems* (Atlanta, Georgia, April 10 – 15, 2010). CHI'10. ACM, New York, NY, 1657-1660.

**Schwarz, J.**, Mankoff, J., and Matthews, H. S. Reflections of Everyday Activities in Spending Data. *In Proceedings of the 27<sup>th</sup> Annual SIGCHI Conference on Human Factors in Computing Systems* (Boston, Massachussets, April 4 – 9, 2009). CHI '09. ACM New York, NY, 1737-1740.

## AWARDS AND HONORS

<b>Microsoft PhD Fellowship</b>	2012-2013
Awarded to outstanding PhD students in the field of computer science.	
<b>First Place, UIST Student Innovation Contest</b>	2011
Team won “Most Useful” category for window manipulation using touch mouse	
<b>First Place, Microsoft Intern Windows Phone 7 Application Contest</b>	2011
Developed application that uses face detection and audio feedback to help people take photos of themselves.	
<b>Apple Women in Engineering Scholarship</b>	2011
<b>First Place, UIST Student Innovation Contest</b>	2009
Led team that developed in-air input device using pressure-sensitive keyboard.	

<b>NSF Graduate Research Fellow</b> Offers the nation's research leaders of tomorrow exceptional funding.	2009-2012
<b>ARCS Scholar</b> National organization awarding academically outstanding scientists.	2009-2012
<b>Computer Science Outstanding Senior Award</b> (University of Washington) Honors top 3 seniors in computer science for exceptional undergraduate academics.	2009
<b>Finalist, President's Medal and Dean's Medal</b> (University of Washington) Honors top graduating senior for exceptional undergraduate academic performance.	2009
<b>Goldwater Scholar</b> Supports American undergraduate students with outstanding potential.	2006-2007
<b>Member, Phi Beta Kappa</b> National Academic honor society.	2007-Present
<b>Computer Science Award for Excellence</b> (University of Washington) For outstanding performance in computer science.	2007
<b>Presidential Freshman Medalist</b> (University of Washington) Awarded annually to the single highest achieving freshman among class of 9,000.	2005
<b>TEACHING</b>	
Instructor, Building user interface tools for the Web, Carnegie Mellon University.	2011
Teaching Assistant, Introduction to Media Programming, Carnegie Mellon University.	2011
Instructor, The Art and Science of Juggling, Carnegie Mellon University.	2010
Teaching Assistant, Introduction to Programming, University of Washington.	2006 - 2007
<b>SERVICE</b>	
<b>Co-Chair, Student Innovation Contest, UIST</b> Twenty-fifth annual ACM Symposium on User Interface Software and Technology	2012
<b>Reviewer</b> UIST 2011 - 2014, ICMI 2011, CHI 2011 - 2015, TOCHI 2014, CSCW 2014, TEI 2014	
<b>INVITED PRESENTATIONS</b>	
<b>Most Contagious 2013</b> Presentation on the "Future of Touch" at a major marketing conference	2013
<b>SIGGRAPH 2009 Emerging Technologies</b> Helped develop and present Scratch Input. New Orleans, LA.	2009
<b>OTHER ACTIVITIES</b>	
<b>Windows Phone 7 Applications</b> Co-developed 8 applications for Windows Phone 7. Total downloads of applications exceeds 500,000. <a href="http://www.electricsquashstudios.com">http://www.electricsquashstudios.com</a>	2011-2012
<b>Ski Training Director, Husky Winter Sports</b> Created curriculum, lead training. PSIA certified Level 1 ski instructor.	2008