

## education

**Carnegie Mellon University** - Pittsburgh, PA  
Ph.D. in Human Computer Interaction, Present

**Carnegie Mellon University** - Pittsburgh, PA  
B.S. in Information Systems, 2014  
Additional Major in Human Computer Interaction  
Minor in Biomedical Engineering

## research intrests

Understanding the behavior behind and creating tools to improve the sensemaking process in an individual and team atmosphere. Interested in modeling the exploratory search process and applying better models to construct support tools.

## publications

Hahn N., Iqbal S. Liebling D., Teevan J. (2018). Passive Microwriting while Using Facebook. *ACM annual conference on Human Factors in Computing Systems*. [Under Review]

Hahn N., Chang JC., Kittur A. (2018). BentoBrowser: Exploratory Search as Task Management. *ACM annual conference on Human Factors in Computing Systems*. [Under Review]

Chang, JC., Hahn N., Hannah K., Hwong J., Kittur A. (2018). SearchScape: From Ranked Lists to Interactive Landscapes. *ACM annual conference on Human Factors in Computing Systems*. [Under Review]

Chang, JC., Hahn N., Kittur A. (2018). When the Tab Comes Due: Challenges in the Cost Structure of Tab Usage. *ACM annual conference on Human Factors in Computing Systems*. [Under Review]

Chang JC., Hahn N., Kittur A. (2016). Intentionally Uncertain Input: Supporting Highlighting in Information Exploration. *28th Annual ACM Symposium on User Interface Software & Technology*

Hahn N., Chan JC., Kim JE., Kittur A., (2016). The Knowledge Accelerator: Big Picture Thinking in Small Pieces. *ACM annual conference on Human Factors in Computing Systems*. [Honorable Mention]

Chang JC., Kittur A., Hahn N. (2016). Alloy: Clustering with Crowds and Computation. *ACM annual conference on Human Factors in Computing Systems*. [Honorable Mention]

Luther, Kurt, et al. "Crowdlines: Supporting Synthesis of Diverse Information Sources through Crowdsourced Outlines." Third AAAI Conference on Human Computation and Crowdsourcing. 2015.

## professional experience

### **Microsoft Research - Redmond, WA**

Research Intern

June 2016 - August 2016

Worked together with Shamsi Iqbal and Jaime Teevan to develop a novel microtasking interaction within Facebook. Created a chrome extension, performed a study at MSR, and

**US Army - 311th Signal Command, Ft. Shafter HI**

Systems Developer

*July 2011 - August 2013*

Developed and improved existing Army systems. Created tools to track Army assets and help desk support tickets. Responsible for planning, prototyping, documenting and coding of tools.

**Carnegie Mellon Software Engineering Institute**

Research Assistant

*January 2013 - May 2013*

Performed job task analysis on the cyber security field with an emphasis on malware analysts. This included interviews, a literature review, and an affinity diagram of the problem field.

**The Boeing Company**

Software Developer Internship

*June 2009 - July 2011*

Assisted with the creation and deployment of web-based configuration tools. Helped in the configuration and deployment of a customized C++ enclave guard, specialized for Department of Defense use.

**eXmeritus Federal Systems Inc.**

Software Developer Internship

*December 2008 - June 2009*

Assisted in the maintenance and improvement of custom security software tailored to customer specifications.

**project experience****Novel Grip Force Measurement Device for Occupational Therapists**

BME Capstone Project

*September 2013 - May 2014*

Collaborated with an occupational therapist researcher (Dr. Amit Sethi) at the University of Pittsburgh to develop a more realistic and accurate replacement to the dynamometer. Acted as a hardware and UI developer for the project, prototyping the force measurement electronics as well as creating a front end displaying a force heat map and statistics.

**Greenlight - Wireless Retrofit Daylight Harvesting System**

IS Capstone Project

*September 2012 - May 2014*

Designed and developed a wireless room dimming system that responds to changes in ambient light. Worked with group of three other undergraduate information systems majors, and was the primary hardware lead on the project. Constructed three different prototypes of varying complexity, ranging from a breadboard TRIAC-based dimmer to a PCB reverse sine wave dimmer.

**press****Carnegie Mellon Today**

Greenlight Project

*July 2014*

<http://www.carnegiemellontoday.com/issues/july-2014-issue/the-fence/bright-future/>

**The Piper**

BME Capston Project

*June 2014*