



# RAWAN ALHARBI | Curriculum Vitae

 [www.rawanalharbi.com](http://www.rawanalharbi.com)

 [rawan.alharbi@northwestern.edu](mailto:rawan.alharbi@northwestern.edu)

## Research Interests

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The main goal of my research is to enable a sustainable future for wearable systems. I work in the intersection of human-computer interaction, systems, and machine learning, exploring how we can design wearable systems that are practical, long-lived, accurate, and helpful without sacrificing important social values.

## Education

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- June 2022 **Ph.D. in Computer Science, Northwestern University**  
*Dissertation Title: Reimagining Visual Wearable Systems*  
Advisor: Nabil Alshurafa
- 2016 **M.S. in Computer Science, Northwestern University**  
*Thesis Title: Opportunistic tangible programming by demonstration for physical components*  
Advisor: Micheal Horn
- 2011 **B.S. in Computer Science, Prince Sultan University**

## Awards and Achievements

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- 2021 **The Peter and Adrienne Barris Outstanding Teaching Award**
- 2020 **Rising Stars in EECS**
- 2019 **SIGCHI Student Travel Award**
- 2018 **UbiComp Travel Award**
- 2017 **Best Poster Award at 2017 Obesity Week (eHealth/mHealth Section)**
- 2016 **Best Paper Award at IEEE BODYNET**
- 2016 **PerCom NSF Travel Award**

## Publications

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### — Peer-Reviewed Journals and Conference Publications

- [C05] **Heatsight: Wearable low-power omni thermal sensing**  
[Rawan Alharbi](#), Chunlin Feng, Sougata Sen, Jayalakshmi Jain, Josiah Hester, Nabil Alshurafa  
ACM Conference on Pervasive and Ubiquitous Computing (**Ubicomp/ISWC'21**)  
Published in ISWC

- [C04] **To mask or not to mask? Balancing privacy with visual confirmation utility in activity-oriented wearable cameras**  
[Rawan Alharbi](#), Mariam Tolba, Lucia C Petito, Josiah Hester, Nabil Alshurafa  
 ACM Conference on Pervasive and Ubiquitous Computing (UbiComp'19)  
 Published in PACM IMWUT
- [C03] **Is more always better? Discovering incentivized mHealth intervention engagement related to health behavior trends**  
 Nabil Alshurafa, Jayalakshmi Jain, [Rawan Alharbi](#), Gleb Iakovlev, Bonnie Spring, Angela Pfammatter  
 ACM Conference on Pervasive and Ubiquitous Computing (UbiComp'19)  
 Published in PACM IMWUT
- [C02] **I can't be myself: Effects of wearable cameras on the capture of authentic behavior in the wild**  
[Rawan Alharbi](#), Tammy Stump, Nilofar Vafaie, Angela Pfammatter, Bonnie Spring, Nabil Alshurafa  
 ACM Conference on Pervasive and Ubiquitous Computing (UbiComp'18)  
 Published in PACM IMWUT
- [C01] \* **Food watch: Detecting and characterizing eating episodes through feeding gestures**  
 Shibo Zhang, [Rawan Alharbi](#), William Stogin, Mohamad Pourhomayun, Bonnie Spring, Nabil Alshurafa  
 EAI International Conference on Body Area Networks (BodyNets'16)  
**Best Paper Award**

## — Publications Under Review or Preparation

- [R02] **SmokeMon: Unobtrusive Wearable for Measuring Smoking Topography**
- [R01] **ActiSight: Wearer Foreground Extraction using a Practical RGB-Thermal Wearable**

## — Peer-Reviewed Workshop Papers and Extended Abstracts

- [W08] **Measuring smoking topography in natural settings using non-contact passive wearable sensors**  
[Rawan Alharbi](#), Bonnie Spring, Nabil Alshurafa  
 Annals Of Behavioral Medicine (SBM'20)
- [W07] **"I am not an engineer": Understanding how clinicians design & alter assistive technology**  
 Rahaf Alharbi, Ada Ng, [Rawan Alharbi](#), Josiah Hester  
 ACM CHI Conference on Human Factors in Computing Systems - Extended Abstract (EA CHI'20)
- [W06] **Detecting real time episodic overeating for just in time interventions**  
 Nabil Alshurafa, [Rawan Alharbi](#), Angela F Pfammatter, Bonnie Spring  
 Annals Of Behavioral Medicine (SBM'18)
- [W05] **From sensing to theory: Implications of capturing naturally occurring behaviors in the wild**  
 Angela F Pfammatter, [Rawan Alharbi](#), Nabil Alshurafa, Bonnie Spring  
 Annals Of Behavioral Medicine (SBM'18)
- [W04] **Investigating barriers and facilitators to wearable adherence in fine-grained eating detection**  
[Rawan Alharbi](#), Nilofar Vafaie, Kitty Liu, Kevin Moran, Gwendolyn Ledford, Angela Pfammatter, Bonnie Spring, and Nabil Alshurafa.  
 IEEE Conference on Pervasive Computing and Communications - Workshop (PerCom'17 Workshop)
- [W03] **Intuito: Opportunistic tangible programming by demonstration for physical components**  
[Rawan Alharbi](#), Nabil Alshurafa, Michael Horn  
 ACM CHI Conference on Human Factors in Computing Systems - Extended Abstract (EA CHI'17)

- [W02]     **Willsense: Adherence barriers for passive sensing systems that track eating behavior**  
[Rawan Alharbi](#), Angela Pfammatter, Bonnie Spring, Nabil Alshurafa  
*ACM CHI Conference on Human Factors in Computing Systems - Extended Abstract* (EA CHI'17)
- [W02]     **From lab to field: Eating detection machine learning models, privacy, stigma and user-comfort of wearables**  
 Nabil Alshurafa, [Rawan Alharbi](#)  
*Annals Of Behavioral Medicine* (SBM'17)
- [W01]     **When generalized eating detection machine learning models fail in the field**  
 Shibo Zhang, [Rawan Alharbi](#), Matthew Nicholson, Nabil Alshurafa  
*ACM Conference on Pervasive and Ubiquitous Computing - Extended Abstract* (EA UbiComp'17)

## Teaching Experience

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### — At Northwestern University

- 2022     **Computing Everywhere: Detecting Human Activities Using Wearable Sensors**  
 Co-Instructor and Workshop Designer
- 2021     **COMP\_SCI 397/497: Wireless, and Mobile Health (mHealth)**  
 Instructor and Course Designer, Winter Quarter 2021
- 2020     **BDSD Workshop: Analyzing Human Behavior and Lifestyle Using Wearable Sensors Workshop**  
 Instructor and Workshop Designer
- 2019     **Computing Everywhere: Building Android App**  
 Co-Instructor and Workshop Designer

## Selected Talks

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### — Conference Talks

- 2021     **Heatsight: Wearable low-power omni thermal sensing**  
 UbiComp / ISWC 2021
- 2019     **To mask or not to mask? Balancing privacy with visual confirmation utility in activity-oriented wearable cameras**  
 UbiComp
- 2018     **I can't be myself: Effects of wearable cameras on the capture of authentic behavior in the wild**  
 UbiComp
- 2017 ✱   **Will Participants Wear Passive Sensing Devices Long Enough to Study Eating Behavior?**  
 Obesity week - eHealth/mHealth Section  
**Best Poster Award**

## Services

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### — Organizing

- 2020      **NSF-funded workshop on Technology for Automated Capture of Diet**  
*Student Volunteer*
- 2019–      **Northwestern Graduate Women in Computing (GWiC)**  
2020      *Co-Director*
- 2018      **UbiComp Conference**  
*Student Volunteer*

#### — Reviewing

- 2019 –      **ACM Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)**  
✱      *2-3 reviews per year*  
         **2 x Special Recognitions for Outstanding Reviews**
- 2019–      **ACM Conference on Human Factors in Computing Systems (CHI)**  
         *1-2 reviews per year*
- 2019      **IEEE EMBS International Conference on Biomedical & Health Informatics (BHI)**

## References

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Available upon request