

2017– **Assistant Professor**
College of Information Sciences and Technology
Penn State University

Education

2011–2017 **PhD, Information Science, Cornell University**
Committee: Tanzeem Choudhury (chair), Geri Gay and Deborah Estrin
Dissertation: Circadian Computing: Sensing and Stabilizing Biological Rhythms

2011–2014 **Master of Science, Information Science, Cornell University**
Advisor: Tanzeem Choudhury

2009–2011 **Master of Science, Computer Science, University of Vermont**
Advisor: Xindong Wu

2003–2007 **Bachelor of Science, Computer Science & Engineering, Bangladesh University of Engineering & Technology**
Advisors: Dr Monirul Islam and Shohrab Hossain
Thesis: Evolution of Neural Network using Genetic Algorithm

Publications

JOURNAL ARTICLES

- 2018 J07 **Personalized stress monitoring: a smartphone-enabled system for quantification of salivary cortisol**
Elizabeth Rey, Aadhar Jain, *Saeed Abdullah*, Tanzeem Choudhury, David Erickson
Personal and Ubiquitous Computing
- J06 **Sensing technologies for monitoring serious mental illnesses**
Saeed Abdullah and Tanzeem Choudhury
IEEE Multimedia - Special Issue on New Signals in Multimedia
- 2017 J05 **Semi-automated tracking: a balanced approach for self-monitoring applications**
Eun Kyoung Choe, *Saeed Abdullah*, Mashfiqui Rabbi, Edison Thomaz, Daniel A. Epstein, Matthew Kay, Felicia Cordeiro, Gregory D. Abowd, Tanzeem Choudhury, James Fogarty, Bongshin Lee, Mark Matthews, and Julie A. Kientz.
IEEE Pervasive Computing.
- 2016 J04 **Development and evaluation of a smartphone-based measure of social rhythms for bipolar disorder**
Mark Matthews, *Saeed Abdullah*, Geri Gay, and Tanzeem Choudhury.
Assessment (ASM), 23(4), 472–483.

- 2015 J03 **Automatic detection of social rhythms in bipolar disorder**
Saeed Abdullah, Mark Matthews, Ellen Frank, Gavin Doherty, Geri Gay, and Tanzeem Choudhury.
 Journal of the American Medical Informatics Association (JAMIA), 23(3), 538–543.
- J02 **Mobile behavioral sensing for outpatients and inpatients with schizophrenia**
 Dror Ben-Zeev, Rui Wang, *Saeed Abdullah*, Rachel Brian, Emily Scherer, Lisa Mistler, Marta Hauser, John Kane, Andrew Campbell, and Tanzeem Choudhury.
 Psychiatric Services, 67(5), 558–561.
- 2014 J01 **Tracking mental well-being: balancing rich sensing and patient needs**
 Mark Matthews, *Saeed Abdullah*, Geri Gay, and Tanzeem Choudhury.
 IEEE Computer, 47(4), 36–43

CONFERENCE PAPERS

- 2018 C16 **AlertnessScanner: What Do Your Pupils Tell About Your Alertness**
 Vincent W.-S. Tseng, *Saeed Abdullah*, Jean Costa, Tanzeem Choudhury
 MobileHCI: Conference on human-computer interaction with mobile devices and services
 Acceptance rate: 24.5%
- C15 **Understanding challenges in prehabilitation for patients with multiple chronic conditions**
 Haining Zhu, Zachary Moffa, Xiyang Wang, *Saeed Abdullah*, Juxihong Julaiti, and John Carroll
 Pervasive Health
 Acceptance rate: 24%
- 2016 C14 **Cognitive rhythms: Unobtrusive and continuous sensing of alertness using a mobile phone**
Saeed Abdullah, Elizabeth Murnane, Mark Matthews, Matthew Kay, Julie Kientz, Geri Gay, and Tanzeem Choudhury.
 UbiComp: Conference on Pervasive and Ubiquitous Computing.
 Acceptance rate: 23%
- C13 **Shining (blue) light on creative ability**
Saeed Abdullah, Mary Czerwinski, Gloria Mark, and Paul Johns.
 UbiComp: Conference on Pervasive and Ubiquitous Computing.
 Acceptance rate: 23%
- C12 **CrossCheck: Toward passive sensing and detection of mental health changes in people with schizophrenia**
 Rui Wang, Min S.H. Aung, *Saeed Abdullah*, Dror Ben-Zeev, Rachel Brian, Andrew T Campbell, Tanzeem Choudhury, Marta Hauser, John Kane, Michael Merrill, Emily Scherer, and Vincent Wen-Sheng Tseng.
 UbiComp: Conference on Pervasive and Ubiquitous Computing.
 Acceptance rate: 23%

-  C11 **Mobile manifestations of alertness: Connecting biological rhythms with patterns of smartphone app use**
Elizabeth Murnane, *Saeed Abdullah*, Mark Matthews, Matthew Kay, Julie Kientz, Geri Gay, Tanzeem Choudhury, Dan Cosley.
MobileHCI: Conference on human-computer interaction with mobile devices and services
Acceptance rate: 23.5%.
Best paper award (top 2 papers)
- C10 **Detecting and capitalizing on physiological dimensions of psychiatric illness**
Mark Matthews, *Saeed Abdullah*, Geri Gay, and Tanzeem Choudhury.
PhyCS: Conference on Physiological Computing Systems
- 2015 C09 **Social (media) jet lag: How usage of social technology can modulate and reflect circadian rhythms**
Elizabeth L. Murnane, *Saeed Abdullah*, Mark Matthews, Tanzeem Choudhury, and Geri Gay.
UbiComp: Conference on Pervasive and Ubiquitous Computing.
Acceptance rate: 23%
- C08 **In-situ design for mental illness: considering the pathology of bipolar disorder in mHealth design**
Mark Matthews, Stephen Volda, *Saeed Abdullah*, Gavin Doherty, Tanzeem Choudhury, Sangha Im, and Geri Gay.
MobileHCI: Conference on human-computer interaction with mobile devices and services
Acceptance rate: 27%
- C07 **Collective smile: measuring societal happiness from geolocated images**
Saeed Abdullah, Elizabeth L. Murnane, Jean MR Costa, and Tanzeem Choudhury.
CSCW: Conference on Computer Supported Cooperative Work & Social Computing
Acceptance rate: 28%
- C06 **MoodLight: Exploring personal and social implications of ambient display of biosensor data**
Jaime Snyder, Mark Matthews, Jacqueline Chien, Pamara F. Chang, Emily Sun, *Saeed Abdullah*, and Geri Gay.
CSCW: Conference on Computer Supported Cooperative Work & Social Computing
Acceptance rate: 28%
- 2014 C05 **Towards Circadian Computing: "early to bed and early to rise" makes some of us unhealthy and sleep deprived**
Saeed Abdullah, Mark Matthews, Elizabeth L. Murnane, Geri Gay, and Tanzeem Choudhury.
UbiComp: Conference on Pervasive and Ubiquitous Computing.
Acceptance rate: 20%

- 2012 C04 **Towards population scale activity recognition: a scalable framework for handling data diversity**
Saeed Abdullah, Nicholas Lane, and Tanzeem Choudhury.
 AAAI: Conference on advancement of artificial intelligence
 Acceptance rate: 26%
- 2011 C03 **An epidemic model for news spreading on twitter**
Saeed Abdullah, and Xindong Wu.
 ICTAI: Conference on tools with artificial intelligence
 Acceptance rate: 23%
- 2009 C02 **Evolving multilayer neural networks using permutation free encoding technique**
 Anupam Das and *Saeed Abdullah.*
 ICAI: Conference on artificial intelligence
 Acceptance rate: 23%
- 2008 C01 **Permutation free encoding technique for evolving Neural networks**
 Anupam Das, Md. Shohrab Hossain, *Saeed Abdullah,* and Rashed UI Islam.
 ISNN: Symposium on neural networks
 Acceptance rate: 23%

BOOK CHAPTER

- 2017 B01 **Circadian Computing: sensing, modeling, and maintaining Biological Rhythms**
Saeed Abdullah, Elizabeth L. Murnane, Mark Matthews, and Tanzeem Choudhury
 Mobile Health: Sensors, Analytic Methods, and Applications edited by Jim Rehg, Susan Murphy, and Santosh Kumar.
 Springer International Publishing

WORKSHOP PAPERS AND ABSTRACTS

- 2018 W08 **Conversational agents to provide couple therapy for patients with PTSD**
 Nasim Motalebi and *Saeed Abdullah*
 WellBeCoach: Smart coaching solutions for health & wellbeing (PervasiveHealth, 2018)
- W07 **Supporting constructive mental health discourse in social media**
 Johnna Blair and *Saeed Abdullah*
 Design4Diversity (PervasiveHealth, 2018)
- 2016 W06 **Assessing mental health issues on college campuses: preliminary findings from a pilot study**
 Vincent Wen-Sheng Tseng, *Saeed Abdullah,* Michael Merrill, Min Aung, Franziska Wittleder, and Tanzeem Choudhury.
 Mental health: Sensing & intervention (UbiComp)
- 2015 W05 **Towards circadian computing: a sensing & intervention framework for body clock friendly technology**

Saeed Abdullah.
Doctoral colloquium (UbiComp)

- 2015 W04 **Circadian Computing: Towards bodyclock friendly technology**
Saeed Abdullah
Human Computer Interaction Consortium Workshop (HCIC)
- W03 **Biological rhythms and technology**
Mark Matthews, Erin Carroll, *Saeed Abdullah*, Jaime Snyder, Matthew Kay,
Tanzeem Choudhury, Geri Gay, Julie Kientz
Human Factors in Computing Systems (CHI)
- 2013 W02 **Light, color, affect, and stress**
Jaime Snyder, Mark Matthews, *Saeed Abdullah*, Yohan Ko, and Geri Gay.
4S: Society for Social Studies of Science
- W01 **Clockwise: inferring chronotype and daily patterns from smartphone use**
Saeed Abdullah.
Doctoral colloquium (UbiComp)

POSTERS AND DEMOS

- 2015 P07 **Automatic detection of social rhythms in bipolar disorder via smartphone**
Ellen Frank, *Saeed Abdullah*, Mark Matthews, and Tanzeem Choudhury.
American College of Neuropsychopharmacology (ACNP)
- P06 **SAINT: a scalable sensing and inference toolkit**
Mashfiqui Rabbi, Thiago Caetano, Jean Costa, *Saeed Abdullah*, Mi Zhang, and
Tanzeem Choudhury.
Workshop on Mobile Computing Systems and Applications (ACM HotMobile)
- 2014 P05 **Towards circadian computing: "early to bed and early to rise" makes some of us unhealthy and sleep deprived**
Saeed Abdullah, Mark Matthews, Elizabeth L. Murnane, Geri Gay, and Tanzeem Choudhury.
Intel Science and Technology Center for Pervasive Computing (ISTC-PC)
- P04 **Circadian Computing: Towards bodyclock friendly technology**
Saeed Abdullah.
HCIC: Human Computer Interaction Consortium Workshop
- 2013 P03 **Developing a smartphone app to monitor mood, social rhythms, sleep and social activity: technology to support effective management of bipolar disorder**
Ellen Frank, Mark Matthews, Tanzeem Choudhury, Steve Volda, and *Saeed Abdullah.*
American College of Neuropsychopharmacology (ACNP)
- P02 **MoodRhythm: Tracking and supporting daily rhythms**

Stephen Volda, Mark Matthews, *Saeed Abdullah*, Mengxi Chrissie Xi, Matthew Green, Won Jun Jang, Donald Hu, John Weinrich, Prashama Patil, Mashfiqui Rabbi, Tauhidur Rahman, Geri Gay, Ellen Frank, and Tanzeem Choudhury.
Interactive demo in UbiComp

- 2012 P01 **Towards population scale activity recognition: a framework for handling data diversity**
Saeed Abdullah, Nicholas D. Lane, and Tanzeem Choudhury.
Intel Science and Technology Center for Pervasive Computing (ISTC-PC)

Teaching experience

AT PENN STATE

- Spring, 2019 **IST 331: Foundations of Human-Centered Design**
- 2018–2019 **IST 525: Computer Supported Cooperative Work (CSCW)**
- 2017–2018 **IST 597: Computational Health: Sensing and Intervention Design**

AT CORNELL UNIVERSITY

- 2014–2016 **Info 4120/6120: Ubiquitous Computing**
Instructor: Tanzeem Choudhury
Guest lecture on Circadian Computing and lab session on mobile programming
- Spring, 2012 **CS/Info 2300: Intermediate design and programming for the web**
Instructor: Carl Lagoze.
Led lab teaching sections, covered some lectures
- Fall, 2012 **CS 4300: Information retrieval**
Instructor: Paul Ginsberg.
Tutored students, marked assignments and reports

AT UNIVERSITY OF VERMONT

- Spring, 2011 **CS 224: Algorithm design & analysis**
Instructor: Byung Lee
Covered some lectures, tutored students, marked assignments
- Fall, 2010 **CS 32: Puzzles, games and algorithms**
Instructor: Robert Snapp
Led lab sessions, marked assignments
- Fall, 2010 **CS 204: Database system**
Instructor: Byung Lee
Covered some lectures, tutored students, marked assignments

- Spring, 2010 **CS 222: Computer architecture**
Instructor: Alan Ling
Tutored students, marked assignments
- Spring, 2010 **CS 195: Computer science for geo-spatial technologies**
Instructor: Alison Pechenick
Developed and marked assignments
- Fall, 2009 **CS 201: Operating systems**
Instructor: Alan Ling
Covered some lectures, tutored students, marked assignments
- Fall, 2009 **CS 243: Theory of computation**
Instructor: Alan Ling
Tutored students, marked assignments

Awards

- 2018 **Tronzo Medical Informatics Endowment from Penn State IST**
The endowment supports research on issues and technologies related to medical informatics.
- 2016–2017 **Special recognition for outstanding reviews**
IMWUT (May 2017 round)
UbiComp 2016
- 2016 **Best paper award in MobileHCI**
For the paper: Mobile manifestations of alertness: Connecting biological rhythms with patterns of smartphone app use.

Agile research grant from Robert Wood Johnson Foundation

Our project focusing on circadian rhythms and cognitive performance was selected as one of the five recipients in the Agile Research Project competition.

- 2013 **\$100,000 Heritage Open mHealth Challenge winner**
Our MoodRhythm project focusing on bipolar disorder won Heritage Open mHealth Challenge co-sponsored by Heritage Provider Network, Open mHealth, and the University of California, Los Angeles.

Research support

- 2019 **Watch Over: Using Apple Watches to Assess and Predict Substance Co-use in Young Adults**
College of Information Sciences and Technology, Penn State (\$53, 260)
Principal Investigator (2019-06-01 – 2020-06-30)
- 2018 **A Real-Time Mindfulness Intervention to Control Pain: Delivery Through a Conversational Agent**

Social Science Research Institute (SSRI), Penn State (\$20, 000)
Principal Investigator (2018-06-29 – 2019-07-31)

2018 **Predicting Relapse Onset in Bipolar Disorder from Online Behavioral Data**
Institute for CyberScience (ICS), Penn State (\$37, 500)
Principal Investigator (2018-05-01 – 2019-04-30)

Talking to Machines: Virtual Conversational Agents for Effective Treatment Delivery in PTSD
College of Information Sciences and Technology, Penn State (\$56, 310)
Principal Investigator (2018-06-30 – 2019-06-30)

Invited talks

2018 **QuantDev Brownbag Series**
Title: Your phone usage reveals a lot about you: Inferring sleep and circadian disruptions from phone use patterns

Colloquium in UT Austin iSchool
Title: Talking to Machines: Conversational Agents for Mental Health Care

Grand Rounds Series at Penn State Psychology Department
Title: Talking to Machines: Conversational Agents for Mental Health Care

2016 **Health Data Exploration Project Agile Grant Series**
Title: Passive sensing of circadian rhythms for individualized models of cognitive performance

2015 **Intel Science & Technology Center for Pervasive Computing (ISTC-PC)**
Title: Cognitive rhythms: unobtrusive and continuous sensing of alertness using a mobile phone

2014 **MIT & Cornell hacking-medicine hackathon**
Title: Supporting individuals with bipolar disorder to establish stable daily routines

Professional experience

Graduate research assistant at Cornell University

2014–2017 Funded by Intel Science & Technology Center for Pervasive Computing (ISTC-PC)
Supervisor: Tanzeem Choudhury
Exploring pervasive technology that supports circadian rhythm stability

2012–2014 Funded by Intelligence Advanced Research Projects Activity (IARPA)
Supervisor: Tanzeem Choudhury
Novel image based large scale sentiment analysis from social media

- Fall, 2015 **Research intern, Microsoft Research Redmond**
Supervisor: Mary Czerwinski
Designed and developed novel system for improving creative ability
- 2011–2012 **Graduate teaching assistant at Cornell University**
- 2009–2011 **Graduate teaching assistant at University of Vermont**
- 2008–2009 **Software developer, AfriGIS Ltd**
Developing search engine with special focus on geographic relevance
- 2008 **Software developer, Google Summer of Code**
Enhancing a Just-In-Time (JIT) compiler for Java to provide instruction code selection and emission for array manipulation bytecodes.

Service

- **AT PENN STATE**
 - 2018–2019 **Faculty Hiring Committee (HCD track)**
 - Graduate Recruiting Committee**
 - 2017– **Faculty advisory committee focusing on IT support for research**
 - 2017 **Reviewer for the Schreyer Honors College applications**
 - Interviewer for the Millennium Scholars program**
 - 2017– **Representative at Human Computer Interaction Consortium (HCIC)**
- **AT CORNELL UNIVERSITY**
 - 2011–2012 **Student volunteer for UbiComp program committee meeting**
 - 2011–2013 **Student representative for faculty hiring committee**
 - 2017 **Computing facilities support**
 - 2014–2016 **Colloquium organizer**
- **EDITORIAL DUTIES**
 - 2017– **Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)**
Associate Editor
 - 2018 **Special Issue of JMIR on Computing and Mental Health**

Co-Editor

WORKSHOP ORGANIZER

2016– **Mental health and well-being: Sensing and intervention**
Saeed Abdullah, Varun Mishra, Andrew T. Campbell, Gregory D. Abowd, and Tanzeem Choudhury.
Workshop at UbiComp

2014 **Biological rhythms and technology**
Mark Matthews, Erin Carroll, *Saeed Abdullah*, Jaime Snyder, Matthew Kay, Tanzeem Choudhury, Geri Gay, and Julie A. Kientz
Workshop at CHI

PROGRAM COMMITTEE MEMBER

2016– **Mental health and well-being: Sensing and intervention workshop at UbiComp conference**

2017 **ACII 2017 workshop on tools and algorithms for mental health and well-being, pain, and distress (MHWPD)**

2015–2018 **International Conference on Digital Health**

2017–2018 **Pervasive Health**

CONFERENCE REVIEWER

UbiComp

CHI

CSCW

Pervasive Health

International Conference on Digital Health

UIST

JOURNAL REVIEWER

Transactions on Accessible Computing

Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)

Journal of Medical Internet Research (JMIR)

Psychiatry Research

Transactions on Affective Computing

Transactions on Software Engineering

IEEE Computer

International Journal of Human-Computer Interaction

Behavior Research Methods journal

IEEE Transactions on Knowledge and Data Engineering