Nediyana Daskalova

CONTACT INFORMATION	Research Scientist Spotify	*e-mail:* nediyana.cs@gmail.com *www:* www.nediyana.com

RESEARCH INTERESTS

Human-Computer Interaction; health-tracking; self-experiments; sleep tracking; personal informatics; social media; mental health; well-being

EDUCATION

Brown University, Providence, Rhode Island USA

Ph.D., Computer Science, May 2020
- Dissertation Topic: "Personalized Systems for Guided and Flexible Self-Experiments"
- Adviser: Prof. Jeff Huang

M.S., Computer Science, May 2016

Grinnell College, Grinnell, Iowa USA

B.A. with honors, Computer Science, May 2014

RESEARCH PROJECTS

SleepCoacher (available on Google Play store and App Store)
Developed a system, SleepCoacher, which guides users through single-case experiments for sleep by collecting raw mobile sensor data and generating personalized, data-driven recommendations based on a collection of templates recommendations created with input from clinicians.

Self-E (available on Google Play Store)
Developed a system, Self-E, which guides novice self-experimenters through the steps of conducting a single-case experiment and applies a Thompson Sampling technique to automatically analyze the data.

Self-Experiments
Developed a set of guidelines for running self-experiments based on two cohorts of students. By encouraging people to iterate on their experiments, the guidelines aim to make the process more practical for novices. We present these guidelines for future self-experiments and designers of self-experimentation tools.

RESEARCH EXPERIENCE

Brown University, Graduate Student   **August 2014 - May 2020**
Collaborated with sleep clinicians and behavior change researchers on developing systems for self-experiments through user studies, usability testing, prototyping, programming the back-end server of the systems, deploying them to the appstore.

Instagram UX Research, Research Intern   **June - August 2018**
Worked with Sebastian Fite on Instagram's Discovery Explore team. Conducted in-lab usability studies, a diary study, and online surveys. Collaborated closely with a team of data scientists, designers, PMs.

Microsoft Research, Research Intern   **April - June 2017**
Worked with Jessica Lundin's team of data scientists and Kay Hofmeester's UX team on building a system to generate personalized recommendations for improving sleep. Worked on analyzing the existing 40 million sleep records from the Microsoft Band.

Yahoo UX Research, Research Intern   **June - August 2016**
Worked with Frank Bentley on all communications products at Yahoo: weekly in-lab user studies, diary studies, and online surveys. Conducted research on the use of email and coupons in email.

Grinnell College, Undergraduate researcher   **June 2013 - May 2014**
Worked with Prof. Janet Davis to research persuasive technology design methodologies to improve student wellness behaviors (focusing on sleep) at Grinnell College. Used a participatory design approach to create and evaluate experience prototypes.

PUBLICATIONS **N. Daskalova**, E. Kyi, K. Ouyang, N. Nugent, and J. Huang "Self-E: Practical Self-Experiments." (in submission).

N. Daskalova, Y. Wang, C. Araujo, G. Beltran, J. Yoon, N. Nugent, J. Williams, and J. Huang "SleepBandits: Guided Flexible Self-Experiments for Sleep." CHI 2020.

N. Daskalova, B. Lee, J. Huang, C. Ni, J. Lundin. "Investigating the Effectiveness of Cohort-Based Sleep Recommendations." Ubicomp 2018. (acceptance rate 27.9%).

N. Daskalova. "Personalized Behavior-Powered Systems for Guiding Self-Experiments." CHI Doctoral Consortium 2018.

N. Daskalova, K. Desingh, A. Papoutsaki, D. Schulze, H. Sha, and J. Huang."Lessons Learned from Two Cohorts of Personal Informatics Self-Experiments." Ubicomp 2017. (acceptance rate 21%)

F. Bentley, **N. Daskalova**, N. Andalibi. "If a person is emailing you, it just doesn't make sense": Exploring Changing Consumer Behaviors in Email." CHI 2017. (acceptance rate 25%)

N. Daskalova, D. Metaxa-Kakavouli, A. Tran, N. Nugent, J. Boergers, J. McGeary, and J. Huang. "SleepCoacher: A Personalized Automated Self-Experimentation System for Sleep Recommendations." UIST 2016. (acceptance rate 20.6%)

A. Papoutsaki, P. Sangkloy, J. Laskey, **N. Daskalova**, J. Huang, and J. Hays."Webgazer: Scalable webcam eyetracking using user interactions." IJCAI 2016. (acceptance rate 25%)

N. Daskalova, N. Ford, A. Hu, K. Moorehead, B. Wagnon, J. Davis. "Informing Design of Suggestion and Self-Monitoring Tools through Participatory Experience Prototypes." Persuasive 2014.

CASE STUDIES **N. Daskalova**, F. Bentley, N. Andalibi. "It's All About Coupons: Exploring Coupon Use Behaviors
AND WORKSHOPS in Email." Case Study, CHI 2017.

F. Bentley, **N. Daskalova**, Brooke White. "Comparing the Reliability of Amazon Mechanical Turk and Survey Monkey to Traditional Market Research Surveys." Case Study, CHI 2017.

N. Daskalova, J. Ma, T. Chen, V. Nguon, J. Qian, C. Chen and J. Huang."HeyPillow: Computationally Guided Sleep Behavior Study Through Sensing." WISH symposium, CHI 2019.

HONORS AND | Invitation & travel grant for CHI'18 Doctoral Consortium | **2018** |
AWARDS
Invitation & travel grant for CHI'18 Doctoral Consortium	**2018**
Brown University Travel Grant for CHI'16, CHI'17	**2016, 2017**
Brown University Travel Grant for UbiComp'17, Ubicompb'18	**2017, 2018**
Best Aging in Place Hack at MIT's Grand Hack 2016	**2016**
ACM-W Scholarship for UIST'16	**2016**
Brown University Travel Grant for GHC of Women in Computing	**2014, 2016**
Invitation & travel grant for CRA-W Grad Cohort Workshops	**2015, 2016**
Dropbox Scholarship for Grace Hopper Celebration of Women in Computing	**2013**

TEACHING EXPERIENCE	**Graduate Teaching Assistant**, Brown University

- CS1300: User Interfaces. Fall 2015, Fall 2016.
- CS2951-r: Personal Informatics Seminar. Spring 2016.
- CS2300: Human-Computer Interaction Seminar. Spring 2018.

Teaching Assistant and Grader, Grinnell College

- CS151: Functional Problem Solving. Fall 2013.
- CS161: Imperative Problem Solving. Spring 2013, Spring 2014.

REVIEWER EXPERIENCE

CHI (2015-2019), CSCW (2016,2019), WWW 2015

SERVICE

Brown University

Hackathon Mentor: HealthHacks RI, Innovate4Sleep	**October 2019**
Student Volunteer: UIST'16, Ubicomp'17, Ubicomp'18, CHI'19	**2016-2019**
Event Coordinator, Graduate Women in CS	**August 2014 - May 2020**
Diversity Committee Member	**January 2018 - December 2020**
Panelist for Applying to Graduate School in STEM	**March 2017**
Hour of Code Volunteer	**December 2016**
PhD Recruitment Coordinator	**September 2014 - May 2015**
Department Representative, Graduate Student Council	**Spring 2015**

Grinnell College

Student Educational Policy Committee	**Spring 2015, Fall 2015**
Hall Wellness Coordinator	**September 2011 - August 2013**
Social Event Coordinator, International Student Organization	**May 2011 - May 2012**

RELEVANT COURSEWORK

Brown University	**Grinnell College**
• Personal Informatics Seminar	• Discrete Structures
• Designing & Developing User Interfaces	• Analysis of Algorithms
• Human-Computer Interaction Seminar	• Software Design
• Data Science	• Computer Organization and Architecture
• Web Apps	• Cognitive Psychology & Decision-Making
• Experimental Data Analysis	• Behavioral Psychology
• Computational Vision	• Neuroscience of the Social Brain
• Applied Artificial Intelligence	• Positive Psychology

CERTIFICATES

Effective Performance Workshops, Brown University	**May 2018**
Certificate I: Sheridan Teaching Seminar - Reflective Teaching, Brown University	**Spring 2016**

INVITED TALKS

Practical Self-Experiments with Self-E. Emergency Digital Health Innovation (EDHI) Program Seminar at the Department of Emergency Medicine, Brown University. October 2019.

Guiding Cohorts into Sleep Recommendations through Self-Experiments. Scientific Staff Meeting (SSM) of the Division of Sleep and Circadian Disorders (DSCD) at Brigham and Women's Hospital and Harvard Medical School. February 2019.

Personalized Behavior-Powered Systems for Guiding Self-Experiments. **Rising Star series** at University of Massachusetts Amherst. November 2018.

Guiding Cohorts into Sleep Recommendations through Self-Experiments. Providence Sleep Research Interest Group (PSRIG) at the E.P. Bradley Sleep Research Lab. November 2018.

SleepCoacher: A Personalized Automated Self-Experimentation System for Sleep Recommendations. Microsoft Research. April 2017.

Evaluation. Guest Lecture for User Interfaces class. Brown University. November 2016.

STUDENT MENTORING	Yusuf Karim (August 2019-present)
	Andrew Park, Eindra Kyi, Maria Kloiber, visiting undergraduate research students (summer 2019)
	Niharika Jhingan, Kevin Ouyang, undergraduate students (January 2019-present)
	Lisa Wang, undergraduate student (January 2018-present)
	Cintia Araujo, Angel Suet Yan Cheung, undergraduate students (August 2018-2019)
	Ishaan Agarwal, undergraduate student (2017-2019)
	Jina Yoon, undergraduate student (2016-2018)
	Guillermo Beltran, undergraduate student (2015-2017)
	Guo Wang, Dominique Moore, undergraduate students (2017)
	Adrienne Tran, undergraduate student (2015-2016)
	Danaë Metaxa-Kakavouli, undergraduate student (2014-2015), now a PhD student at Stanford

SELECTED PRESS

Brown researchers developing new interactive sleep app
Brown University News (November 2016)
https://news.brown.edu/articles/2016/11/sleepcoacher

Brown scientists developing new self-contained SleepCoacher app
News Medical Life Sciences (November 2016)
https://www.news-medical.net/news/20161101/Brown-scientists-developing-new-self-contained-SleepCoacher-app.aspx

How your smartphone can actually improve your sleep
South China Morning Post (February 2017)
http://www.scmp.com/lifestyle/health-beauty/article/2067203/how-your-smartphone-can-actually-improve-your-sleep

Novel interactive app to improve sleep
Yahoo News (November 2016)
https://sg.news.yahoo.com/novel-interactive-app-improve-sleep-083603245.html

Why Yahoo thinks it may be time to blow up your inbox
FastCompany (S. Melendez, May 2017)
https://www.fastcompany.com/40419395/why-yahoo-thinks-its-time-to-blow-up-your-inbox

Be ready to roll on Black Friday with Yahoo Mail's handy coupon list
Digital Trends (Christian de Looper, November 2016)
https://www.digitaltrends.com/mobile/yahoo-mail-coupons-smart-travel-view/

An Interdisciplinary Team Including Multiple Brown CS Students Wins An Award At MIT Grand Hack 2016
Brown CS News (Jesse Polhemus, May 2016)
http://blog.cs.brown.edu/2016/05/05/interdisciplinary-team-brown-wins-award-mit-grand-hack-2016/