Rui Wang

CONTACT INFORMATION	6211 Sudikoff Lab, Dartmouth College, Hanover, NH, 03755	*E-mail:* ruiwang@cs.dartmouth.edu *WWW:* http://www.cs.dartmouth.edu.com/~ruiwang

RESEARCH INTERESTS

Areas: ubiquitous computing, mobile sensing, behavioral modeling, context awareness, and data mining

My current research interest broadly focuses on developing mobile sensing and inference systems for smartphones and wearable devices that observe and understand human behaviors. I am particularly interested in finding connections between people's daily behaviors and health outcomes.

My h-index is 8 according to Google Scholar.

EDUCATION

Ph.D., Computer Science, Sep.2012 - 2018 (expected)

- Advisor: Prof. Andrew T. Campbell

M.S., Computer Science, University of Electronic Science and Technology of China, Sep. 2006 - Jun. 2009

- Advisor: Prof. Luo Huiqiong
- Thesis: The Implementation and Application of Wireless Mesh Networks Based on IEEE 802.11 Family Protocols

B.S., Computer Science, Chengdu University of Information Technology, Sep. 2002 - Jun. 2006

PROFESSIONAL EXPERIENCE

Research Assistant   Sept. 2012 - present

Dartmouth Networking and Ubiquitous Systems Laboratory,
Computer Science Department, Dartmouth College, Hanover, NH
My research is currently focused on understanding human behaviors sensed by smartphones and wearable devices. My work at Dartmouth involves developing novel sensing systems on both Android and iOS devices, conducting studies in student body to capture their stress and strain within a Dartmouth term, studying connections between behaviors and brain imaging, and predicting relapse episodes amongst patients who suffer from severe mental illness.

Software Engineer Intern   Jun. 2017 - Sept. 2017

Verily Life Sciences, Mountain View, CA
Signal processing, data analytics for mental health.

Research Engineer Intern   Jul. 2016 - Oct. 2016

Huami USA, Mountain View, CA, USA
I investigated using wearable sensors to measure a user's stress level. My investigation focused on GSR and HRV.

Teaching Assistant   Sept. 2013 - Jun. 2016

Computer Science Department, Dartmouth College, Hanover, NH

Software Engineer   Jul. 2009 - Jul. 2012

Technology and Engineering Group, Tencent, Shenzhen, Guangdong, China
My obligation at Tencent include developing server software for web search engine's indexing service, query service, and item-based recommendation systems.

Research Assistant   Sept. 2006 - Jun. 2009
Computer Science Department, University of Electronic Science and Technology of China, Chengdu
I investigated the implementation and applications of wireless mesh networks. My research focused on wireless multi-hop routing protocols.

PUBLICATIONS

[1] **Rui Wang**, Weichen Wang, Min S. H. Aung, Dror Ben-Zeev, Rachel Brian, Andrew T. Campbell, Tanzeem Choudhury, Marta Hauser, John Kane, Emily A. Scherer, and Megan Walsh. 2017. Predicting Symptom Trajectories of Schizophrenia using Mobile Sensing. PACM Interact. Mob. Wearable Ubiquitous Technol. 1, 3, Article 110 (September 2017), 24 pages.

[2] **Rui Wang**, Fanglin Chen, Zhenyu Chen, Tianxing Li, Gabriella Harari, Stefanie Tignor, Xia Zhou, Dror Ben-Zeev, and Andrew T. Campbell. "StudentLife: Using Smartphones to Assess Mental Health and Academic Performance of College Students." In Mobile Health, pp. 7-33. Springer, Cham, 2017.

[3] Gabriella M. Harari, Weichen Wang, Sandrine R. MÃijller, **Rui Wang**, and Andrew T. Campbell. 2017. Participants' compliance and experiences with self-tracking using a smartphone sensing app. In Proceedings of the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2017 ACM International Symposium on Wearable Computers (UbiComp '17). ACM, New York, NY, USA, 57-60.

[4] Gabriella M. Harari, Sandrine R. MÃijller, Varun Mishra, **Rui Wang**, Andrew T. Campbell, Peter J. Rentfrow, and Samuel D. Gosling. "An Evaluation of StudentsâĂŹ Interest in and Compliance With Self-Tracking Methods: Recommendations for Incentives Based on Three Smartphone Sensing Studies." Social Psychological and Personality Science 8, no. 5 (2017): 479-492.

[5] Dror Ben-Zeev, Emily A. Scherer, Rachel M. Brian, Lisa A. Mistler, Andrew T. Campbell, and **Rui Wang**. "Use of multimodal technology to identify digital correlates of violence among inpatients with serious mental illness: a pilot study." Psychiatric services (2017).

[6] Dror Ben-Zeev, Rachel Brian, **Rui Wang**, Weichen Wang, Andrew T. Campbell, Min SH Aung, Michael Merrill et al. "CrossCheck: Integrating Self-Report, Behavioral Sensing, and Smartphone Use to Identify Digital Indicators of Psychotic Relapse." (2017).

[7] Gabriella M. Harari, Samuel D. Gosling, **Rui Wang**, Fanglin Chen, Zhenyu Chen, and Andrew T. Campbell. "Patterns of behavior change in students over an academic term: A preliminary study of activity and sociability behaviors using smartphone sensing methods." Computers in Human Behavior 67 (2017): 129-138.

[8] Gabriella M. Harari, Nicholas D. Lane, **Rui Wang**, Benjamin S. Crosier, Andrew T. Campbell, and Samuel D. Gosling. "Using smartphones to collect behavioral data in psychological science: Opportunities, practical considerations, and challenges." Perspectives on Psychological Science 11, no. 6 (2016): 838-854.

[9] **Rui Wang**, Min S. H. Aung, Saeed Abdullah, Rachel Brian, Andrew T. Campbell, Tanzeem Choudhury, Marta Hauser, John Kane, Michael Merrill, Emily A. Scherer, Vincent W. S. Tseng, and Dror Ben-Zeev. "CrossCheck: Toward passive sensing and detection of mental health changes in people with schizophrenia." In Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing, pp. 886-897. ACM, 2016.

[10] **Rui Wang**, Peilin Hao, Xia Zhou, Andrew T. Campbell, and Gabriella Harari. 2016. SmartGPA: How Smartphones Can Assess and Predict Academic Performance of College Students. GetMobile: Mobile Comp. and Comm. 19, 4 (March 2016), 13-17.

[11] Gabriella Harari, Samuel D. Gosling, **Rui Wang**, Fanglin Chen, Zhenyu Chen, Andrew T. Campbell. (2017). Patterns of Behavior Change in Students Over an Academic Term: A Preliminary Study of Activity and Sociability Behaviors Using Smartphone Sensing Methods. Computers in Human Behavior, 67, 129-138.

[12] Gabriella Harari, Nicholas D. Lane, **Rui Wang**, Benjamin S. Crosier, Andrew T. Campbell, and Samuel D. Gosling. (in press). Using Smartphones to Collect Behavioral Data in Psychological Science: Opportunities, Practical Considerations, and Challenges. Perspectives on Psychological Science.

[13] **Rui Wang**, Peilin Hao, Gabriella Harari, Xia Zhou, and Andrew T. Campbell, SmartGPA: How Smartphones Can Assess and Predict Academic Performance of College Students, ACM International Joint Conference on Pervasive and Ubiquitous Computing (Ubi-Comp 2015), September 2015. **[Honorable Mention Award]**

[14] **Rui Wang**, Xia Zhou, and Andrew T. Campbell. "Using Opportunistic Face Logging from Smartphone to Infer Mental Health: Challenges and Future Directions." To be presented at 4th ACM Workshop on Mobile Systems for Computational Social Science (MCSS 2015), Osaka, Japan from Sep. 7-11, 2015

[15] Sophia Haim, **Rui Wang**, Sarah E. Lord, Lorie Loeb, Xia Zhou, and Andrew T. Campbell. "The Mobile Stress Meter: A New Way to Measure Stress Using Images." To be presented at 4th ACM Workshop on Mobile Systems for Computational Social Science (MCSS 2015), Osaka, Japan from Sep. 7-11, 2015

[16] Dror Ben-Zeev, Emily A. Scherer, **Rui Wang**, Haiyi Xie, and Andrew T. Campbell. "Next-generation psychiatric assessment: Using smartphone sensors to monitor behavior and mental health." Psychiatric Rehabilitation Journal, Vol 38(3), Sep 2015

[17] Randy Colvin, Stefanie Tignor, **Rui Wang**, Andrew T. Campbell, Inching Closer to Objective Personality Assessment: The Promise of Smartphone Data, the Society for Personality and Social Psychology (SPSP), Long Beach, CA February, 2015.

[18] Gabriella M. Harari, Samuel D. Gosling, **Rui Wang**, Andrew T. Campbell, Capturing Situational Information with Smartphones and Mobile Sensing Methods, European Journal of Personality, 2015.

[19] **Rui Wang**, Fanglin Chen, Zhenyu Chen, Tianxing Li, Gabriella Harari, Stefanie Tignor, Xia Zhou, Dror Ben-Zeev, and Andrew T. Campbell. StudentLife: Assessing Mental Health, Academic Performance and Behavioral Trends of College Students using Smartphones. In Proceedings of the ACM Conference on Ubiquitous Computing. 2014. **[Nominated for the best paper award]**

[20] Fanglin Chen, **Rui Wang**, Xia Zhou, and Andrew T. Campbell. My smartphone knows i am hungry. In Proceedings of the 2014 workshop on physical analytics, pp. 9-14. ACM, 2014.

[21] Zhenyu Chen, Mu Lin, Fanglin Chen, Nicholas D. Lane, Giuseppe Cardone, **Rui Wang**, Tianxing Li, Yiqiang Chen, Tanzeem Choudhury, Andrew T. Campbell, Unobtrusive Sleep Monitoring using Smartphones, 7th International ICST Conference on Pervasive Computing Technologies for Healthcare (Pervasive Health âĂŹ13), May 2013

[22] Chuang-Wen You, Nicholas D. Lane, Fanglin Chen, **Rui Wang**, Zhenyu Chen, Thomas J. Bao, Martha Montes-de-Oca, Yuting Cheng, Mu Lin, Lorenzo Torresani, and Andrew T. Campbell. CarSafe app: alerting drowsy and distracted drivers using dual cameras on smartphones. In Proceeding of the 11th annual international conference on Mobile systems, applications, and services (MobiSys '13). ACM, New York, NY, USA, 461-462.

SELECTED NEWS
AND PRESS

[1] The Quantified Student: An App That Predicts GPA, NPR, June 2015

[2] Researchers use an app to predict GPA based on smartphone use, engadget, June 2015

[3] Smartphone app knows when students are feeling stressed, BBC CAPITAL, October 2014

[4] Failing students saved by stress-detecting app, New Scientist, September 2014

[5] A simple app makes your car smarter, ZDNet, September, 2012

EXPERTISE

Programming Language: C/C++, JAVA, Python, MATLAB
Environments: Eclipse, Android Studio, XCode, Visual Studio Operating Systems: Linux, Windows, iOS, Android