# Jixin Li

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**RESEARCH INTERESTS**

Experience sampling, mobile health, human-computer interaction, machine learning. Summary: developing sustainable, adaptive ecological momentary assessment methods and just-in-time adaptive interventions using mobile and wearable technologies.

**EDUCATION**

**Northeastern University**, Boston, MA 09/2019-05/2026
*Ph.D.* in Personal Health Informatics
Advisor: Prof. Stephen Intille

**Columbia University**, New York City, NY 08/2016-12/2017
*M.A.* in Statistics

**University of Michigan**, Ann Arbor, MI 08/2012-05/2014
*B.A.* in Psychology, minor in Applied Statistics, with Distinction

**Renmin University of China**, Beijing, P.R.China 08/2010-07/2012
Major in Applied Psychology and transferred to the University of Michigan

**PUBLICATIONS**

Wang, W., Yang, C., Nordgren, R., **Li, J.**, Intille, S., Dunton, G., and Hedeker, D. (in press). Modeling intraindividual means and variances from ecological momentary assessment data: Comparing standard computational formulas to mixed-effects location-scale model estimates. *Journal of Behavioral Medicine*.

Ponnada, A., Wang, S., **Li, J.**, Wang, W., Dunton, G., Hedeker, D., and Intille, S. (2025). Longitudinal user engagement with microinteraction ecological momentary assessment (EMA). *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 9(3), 1-27.

Prochnow, T., Wang, W., Wang, S., **Li, J.**, Rothman, A., Intille, S., Hedeker, D., and Dunton, G. (2025). Understanding longitudinal ecological momentary assessment completion: Results from 12 months of burst sampling in the TIME study. *JMIR mHealth and uHealth*, 13(1), e67117.

Cho, Y.W., Chow, S., **Li, J.**, Wang, W., Wang, S., Chinchilli, V., Intille, S., and Dunton, G. (2025). Within- and between-individual compliance in mobile health: joint modeling approach to nonrandom missingness in an intensive longitudinal observational study. *JMIR mHealth and uHealth*, 13, e65350.

Crosley-Lyons, R., **Li, J.**, Wang, W., Wang, S., Huh, J., Bae, D., Intille, S., and Dunton, G. (2025). Exploring person-centred sleep and rest–activity cycle dynamics over 6 months. *Journal of Sleep Research*, e14471.

**Li, J.**, Ponnada, A., Wang, W., Dunton, G. and Intille, S. (2024). Ask less, learn more: Adapting ecological momentary assessment survey length by modeling question-answer information gain. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 8(4), 1-32.

Wang, W., **Li, J.**, Wang, S., Rothman, A., Intille, S., and Dunton, G. (2024). Prevalence of physical activity maintenance across a 12-month study: Comparison of accelerometer indicators. *Journal of Physical Activity and Health*, Vol. 58, S130.

Dunton, G., Wang, W., **Li, J.**, Hedeker, D., Intille, S., and Rothman, A. (2024). Developing a framework to evaluate the validity of longitudinal accelerometer-based indicators of physical activity maintenance. *Journal of Physical Activity and Health*, 21(10), 961-962.

Le, H., Lakshminarayanan, R., **Li, J.**, Mishra, V., and Intille, S. (2024). Collecting self-reported physical activity and posture data using audio-based ecological momentary assessment. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 8(3), 1-35.

Ponnada, A.*, **Li, J.***, Wang, S., Wang, W., Do, B., Dunton, G., and Intille, S. (2022). Contextual biases in microinteraction ecological momentary assessment ($\mu$EMA) non-response. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 6(1), 1-24. **Distinguished Paper Award at the Ubiquitous Computing 2023.**

* indicates equal contributions by the authors.

## CONFERENCE POSTERS & PRESENTATIONS

**Li, J.**, Ponnada, A., Wang, W., Dunton, G. and Intille, S. (November 2025) "Personalized experience sampling surveys: Maximizing insights per survey question with information gain modeling." Invited presentation at: Quant UX Con 2025, online.

**Li, J.**, Ponnada, A., Wang, W., Dunton, G. and Intille, S. (October 2025) "Ask less, learn more: Adapting ecological momentary assessment survey length by modeling question-answer information gain." Peer-reviewed paper presented at: Ubicomp, Espoo, Finland.

Wang, W., **Li, J.**, Wang, S., Rothman, A., Intille, S., and Dunton, G. (March 2024) "Prevalence of physical activity maintenance across a 12-month study: Comparison of accelerometer indicators." Symposium presented at: The Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine, Philadelphia, PA, USA.

Prochnow, T., Wang, W-L., Wang, S., **Li, J.**, Intille, S., Hedeker, D., and Dunton, G. (May 2024). "Understanding ecological momentary assessment compliance in a 12-month multi-measurement burst sampling design in the TIME study." Accepted as an oral presentation at: The 2024 International Society of Behavioral Nutrition and Physical Activity Meeting, Omaha, NE. **SIG award at the International Society of Behavioral Nutrition and Physical Activity (ISBNPA) 2024.**

Volz, S., Wang, S., **Li, J.**, Wang, W., Dunton, G., Intille, S., and Rothman, A. (April 2023) "Affectively-charged motivations for physical activity and their relation to physical activity engagement." Poster presented at: The 44th Annual Convention of the Society of Behavioral Medicine, Phoenix, AZ.

Wang, W., Wang, S., Yang, C., **Li, J.**, Intille, S., and Dunton, G. (April 2023) "Associations of smartphone usage with average day level and day-to-day variability of mood in emerging adults." Poster presented at: The 44th Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine, Phoenix, AZ.

Crosley-Lyons, R., **Li, J.**, Wang. W., Wang, S., Huh, J., Bae, D., Intille, S., and Dunton, G., (March 2023) "Exploring within-person circadian rest-activity cycle rhythm dynamics over six months: A latent transition analysis." Poster presented at: The Annual Meeting  Scientific Sessions of the Society of Behavioral Medicine, Philadelphia, PA, USA.

Volz, S., Wang, S., **Li, J.**, Wang. W., Dunton, G., Intille, S., and Rothman, A. (March 2023) "Effects of affective motivation and deliberation on subsequent day- and hour-level physical activity engagement." Poster presented at: The Annual Meeting Scientific Sessions of the Society of Behavioral Medicine, Philadelphia, PA, USA.

## OPEN-SOURCE SOFTWARE & TOOLS

**MixWILD: Mixed model analysis with intensive longitudinal data**
`https://reach-lab.github.io/MixWildGUI/`

- MixWILD is a Java-based desktop application for examining the effects of variance and slope of time-varying variables in intensive longitudinal data, especially in data collected using ecological momentary assessments.
- The software has enabled behavioral researchers to answer novel research questions using intensive longitudinal data in at least nine influential publications in behavioral medicine.

**Python library for annotating location data with OpenStreetMap tags**
`https://bitbucket.org/mhealthresearchgroup/osm_annotation/src/main/`

- The Python library enables researchers to automatically and scalably enrich raw location coordinates with contextual information derived from OpenStreetMap point-of-interest and geospatial data.

## ACADEMIC SERVICE

**Journal and Conference Reviews**

- Conference on Human Factors in Computing Systems (CHI)
- Journal of Physical Activity and Health (JPAH)

**Teaching Assistant** at Northeastern University 9/2024-12/2024

- Independently designed and taught lectures for a 60-student senior-level machine learning course on deep learning for sequential data modeling.
- Developed and presented hands-on tutorials on PyTorch and cluster computing to support students' practical understanding of deep learning implementation and scalable model training.

## WORK EXPERIENCES

**Data Scientist** at Learnable, Inc., Boston, MA 10/2017-10/2018

**Real-time pricing support for transportation delay insurance**:

- Supported pricing for transportation delay insurance by predicting delay risk using ML models and scraping weather data (Python).

**Built classification models to predict hierarchical labels**:

- Implemented multi-level SVM models to assign knowledge labels to high school math and physics exercises (Python Jupyter notebook).

**Survey Data Analyst** at AsiaEAP Consulting Co., Shanghai, China 2015-2016

- Wrote organizational mental well-being report by conducting survey and group interview to client companies in labor-intensive industry.
- Collected prevailing scales on stress in the workplace and compiled questionnaires customized for clients, including Honeywell, Volkswagen, and Qunar.com.

**TECHNICAL SKILLS**

**Programming:** Python (expert), R, Java, SQL

**Machine Learning & AI:** PyTorch, Scikit-learn; supervised and unsupervised learning, deep learning, time-series analysis, natural language processing

**Statistical Modeling:** Univariate and multivariate statistics, multilevel modeling, Bayesian statistics, uncertainty-aware decision making

**Software & Platforms:** Git, Linux, AWS, RStudio, Android Studio, SPSS, Visual Studio Code, Cursor, Qualtrics, Figma

**Computing & Infrastructure:** Cluster computing (SLURM, GPU)

**SCHOLARSHIPS & AWARDS**

Distinguished Paper Award (DPA) at UbiComp/ISWC 2023.

SIG award at ISBNPA 2024.

University Honors, University of Michigan, 2014.

University Scholarship, Renmin University of China, 2012.