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

Li, J., Thapa-Chhetry, B., Ponnada, A., Wang, S., Hewus, M., Dunton, G. F., Intille, I. (in press). Semantically enriching personal mobility data using OpenStreetMap: A case study using smartphone users' frequently visited places. *Journal of Location Based Services*.

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 (μEMA) 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.