

Jinyang Li

Ph.D. candidate in Center for Hydrometeorology and Remote Sensing,
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AREAS of RESEARCH

- Continental Rainfall-runoff/Flooding Modelling
- Remote Sensing Applications to Hydrology
- Infectious Disease Modeling
- Reservoir Simulation & Optimization
- Control & Reinforcement Learning

EDUCATION

- 2021-present **Ph.D. Candidate** - Computational Hydrology. University of California, Irvine, CA.
 Advisor: [Prof. Kuo-lin Hsu](#), [Prof. Soroosh Sorooshian](#)
- 2019-2021 **M.S.** - Environmental Engineering, University of California, Irvine, CA
 Thesis: Exploration of Deep Learning Models on Streamflow Simulations
 Advisor: [Prof. Kuo-lin Hsu](#)
- 2015-2019 **B.S.** - Environmental Science. Sichuan University, Chengdu, China
 Thesis: Estimation of PM₁₀ in China using Random Forest Model in 2013 - 2016
 Advisor: [Prof. Yu Zhan](#)

WORKING EXPERIENCE

- 2025/06- **Incoming Research Intern, Oak Ridge National Laboratory**, Oak Ridge, TN
- 2025/09 - Develop scalable Fully-Distributed Deep-Learning framework for rainfall-runoff modelling and flood forecasting
- 2024/10- **AI Research Intern, Fujitsu Research of America**, Santa Clara, CA
- 2025/03 - Develop AI-foundation model for global flooding and landslide prediction
- 2021/09 - **Graduate Research Assistant, Center for Hydrometeorology and Remote Sensing**, Department of Civil and Environmental Engineering, University of California, Irvine, CA
- now - Develop advanced Deep learning model to improve hydrologic predictions
- Support NSF/NIH grant and proposal writings

HONORS & AWARDS

- 2025 Graduate Scholar Success Fund Fellowship, UCI
- 2024 Outstanding Student Presentation Award (OSPA), American Geophysical Union (AGU)
- 2022 UCI Associated Graduate Students (AGS) Travel Grant, UCI
- 2022 HydroML Symposium Travel Grant, Penn. State University
- 2020 Excellence in Engineering Communication, UCI

PUBLICATIONS

Preprint

- 2025 Li, J., Hsu, K. L., Jiang, A. L., & Sorooshian S. (in review). Improving Regional Rainfall-runoff Modeling Using Attention-based Model. **Water Resources Research**. [DOI: 10.22541/essoar.174690684.43716119/v1]
- 2025 Li, J., Hsu, K. L., Jiang, A. L., & Yan G. (in review). Predicting An. stephensi Environmental Suitability in the Greater Horn of Africa using Remote Sensing and Ensemble modeling. **International Journal of Applied Earth Observation and Geoinformation**. [DOI: 10.2139/ssrn.5218877]

Published

- 2024 Li, J., Dao, V., Hsu, K., Analui, B., Knofczynski, J. D., & Sorooshian, S. (2024). Improving Cascade Reservoir Inflow Forecasting and Extracting Insights by Decomposing the Physical Process Using a Hybrid Model. **Journal of Hydrology**, 630, 130623. [DOI: 10.1016/j.jhydrol.2024.130623]
- 2025 Chen, X., Zhang, Y., Li, J., Hsu, K., & Sorooshian, S. (2025). Fine-tuning long short-term memory models for seamless transition from historical to near-real-time streamflow predictions. **Environmental Modeling & Software**, 106350. [DOI: 10.1016/j.envsoft.2025.106350]
- 2025 Zhang, Y., Ye, A., Li, J., Analui, B., Nguyen, P., Hsu, K., & Sorooshian, S. (2025). Improve streamflow simulations by combining machine learning pre-processing and post-processing. **Journal of Hydrology**, 655, 132904. [DOI: 10.1016/j.jhydrol.2025.132904]

TECHINICAL REPORTS

- 2024 Analui, B., Sorooshian, S., Li, J., Rouzegari, N., Bolboli Zadeh, M., USDOE Office of Energy Efficiency and Renewable Energy (EERE), Renewable Power Office. Identifying Hydropower Operational Flexibilities in Presence of Streamflow and Net-load Uncertainty (Final Technical report). No. DOE-UCI-08943. Univ. of California, Irvine, CA (United States), 2024. <https://doi.org/10.2172/2340918>

CONFERENCE PRESENTATION (3 Oral presentations + 2 eLightning presentations + 2 Poster)

- 2024 Li, J., Hsu, K., & Sorooshian, S. (2024). Foundation model for global natural hazards prediction. AGU Fall Meeting 2024. **eLightning presentation**
- 2024 Li, J., Hsu, K., Jiang, A. L., & Sorooshian, S. (2022). Improving Rainfall-Runoff Modeling Using Attention-based Model: A Perspective on Explainability. 1st *Science Understanding through Data Science Conference (SUDS)*. **Oral presentation**
- 2023 Li, J., Analui, B., Hsu, K., & Sorooshian, S. (2023). Deep reinforcement learning for sustainable reservoir operation. AGU Fall Meeting 2023. **eLightning presentation**
- 2022 Li, J., Hsu, K., Jiang, A. L., & Sorooshian, S. (2022). Attention-based model for rainfall-runoff modeling using large-domain datasets. AGU Fall Meeting 2022. **Oral presentation**
- 2022 Li, J., Hsu, K., Jiang, A. L., & Sorooshian, S. (2022). Exploration of Attention-based model for rainfall-runoff modeling. *HydroML symposium 2022*. **Oral presentation**

- 2022 Dao, V., Li, J., Analui, B., & Hsu, K. (2022). Missouri River Basin streamflow simulation using meteorological data. *AGU Fall Meeting 2022*. **Poster presentation**
- 2020 Li, J., Hsu, K., & Jiang, A. L. (2020). Applying deep learning models for catchment scale streamflow prediction. *AGU Fall Meeting 2020*. **Poster presentation**

APPOINTMENTS & SERVICES

- 2024 Teaching assistant. Modeling, Economics, and Management (Undergraduate). UCI
- 2024 Teaching assistant. Civil Engineering Practicum II (Undergraduate). UCI
- 2023 Teaching assistant. Mathematical Methods in Engineering Analysis (Graduate). UCI
- 2023 Teaching assistant. Hydro Remote Sensing (Graduate). UCI
- 2022 Teaching assistant. Mathematical Methods in Engineering Analysis (Graduate). UCI
- 2022 Teaching assistant. Hydro Remote Sensing (Graduate). UCI
- 2022 Grader. Civil Engineering Practicum II (Undergraduate). UCI
- 2021 Mentor. UCI-Connected Education Club. UCI

SOCIETY MEMBERSHIP

- American Geophysical Union (AGU)
- American Meteorological Society (AMS)

TECHNICAL SKILLS

Programming Languages: Python, SQL, MATLAB, R

Libraries: PyTorch, TensorFlow, Numba, GDAL, Xarray, Geopandas, Rasterio, OpenAI Gym

Tools: Linux, Git, ArcGIS, ENVI, AutoCAD, AWS, Google Earth, Google Colab