

### Education

- 2019– **University of New South Wales** Sydney  
Ph.D. in Computer Science and Engineering  
supervisor: Scientia Prof. [Lina Yao](#) (UNSW, Science Lead at CSIRO's Data61).  
Thesis: **Uncertainty Estimation, Explanation and Reduction with Insufficient Data**
- 2016–2019 **Tongji University** Shanghai  
M.Eng. in Control Science and Engineering  
supervisor: Prof. [Qi Kang](#). GPA: 4.46/5.0.  
Thesis: Concept Drift Learning-based Representation and Active Detection on Streaming Data
- Term1 2015 **Royal Melbourne Institute of Technology** Melbourne  
Undergraduate Exchange Program. GPA: 4.0/4.0.
- 2012–2016 **Nanjing University of Aeronautics and Astronautics** Nanjing  
B.Eng. in Mechanical Engineering and Automation. GPA: 3.8/5.0.

### Industry Experience

- 2018 **PayPal** · Software Engineer Intern (4 months) · Shanghai  
Investigation of time series analysis for Fin-tech applications including seasonality detection, anomaly detection and sequential prediction.

### Publications

- **Uncertainty Estimation with Neural Processes for Meta-Continual Learning.** Xuesong Wang, Lina Yao\*, Xianzhi Wang, Hye-young Paik, and Sen Wang. In *IEEE Transactions on Neural Networks and Learning Systems*, TNNLS (CORE A\*, IF = 14.255) 2022. [↗](#)
- **The Neural Process Family: Survey, Applications and Perspectives.** Saurav Jha, Dong Gong, Xuesong Wang, Richard E Turner, Lina Yao\*. In Arxiv 2022. [↗](#)
- **Contrastive Functional Connectivity Graph Learning for Population-based fMRI Classification.** Xuesong Wang\*, Lina Yao, Islem Rekik, and Yu Zhang. In *International Conference on Medical Image Computing and Computer Assisted Intervention*, MICCAI (CORE A) 2022. [↗](#)
- **Global Convolutional Neural Processes.** Xuesong Wang\*, Lina Yao, Xianzhi Wang, Hye-young Paik, and Sen Wang. In *IEEE International Conference on Data Mining*, ICDM (CORE A\*). 2021. [↗](#)
- **NP-PROV: Neural Processes with Position-Relevant-Only Variances.** Xuesong Wang, Lina Yao\*, Xianzhi Wang, Feiping Nie and Boualem Benatallah. In *International Conference on Web Information Systems Engineering*, WISE (CORE A) 2021. [↗](#)
- **Mobility Irregularity Detection with Smart Transit Card Data.** Xuesong Wang\*, Lina Yao, Wei Liu, Can Li, Lei Bai, and S. Travis Waller. In *Pacific-Asia Conference on Knowledge Discovery and Data Mining*, PAKDD (CORE A) 2020. [↗](#)
- **Multiscale Drift Detection Test to Enable Fast Learning in Nonstationary Environments.** XueSong Wang, Qi Kang\*, MengChu Zhou, Le Pan, and Abdullah Abusorrah. In *IEEE Transactions on Cybernetics*, TCYB (IF = 19.118) 2020. [↗](#)
- **Predicting Heat Transfer of Oscillating Heat Pipes for Machining Processes based on Extreme Gradient Boosting Algorithm.** Ning Qian, Xuesong Wang, Yucan Fu, Zhengcai Zhao, Jihua Xu, and Jiajia Chen. In *Applied Thermal Engineering* 2020. [↗](#)
- **Drifted Twitter Spam Classification Using Multiscale Detection Test on K-L Divergence.** Xuesong Wang, Qi Kang\*, Jing An, and Mengchu Zhou\*. In *IEEE Access* 2019. [↗](#)
- **A Distance-based Weighted Undersampling Scheme for Support Vector Machines and its Application to Imbalanced Classification.** Qi Kang\*, Lei Shi, MengChu Zhou, XueSong Wang, QiDi Wu, and Zhi Wei. In *IEEE Transactions on Neural Networks and Learning Systems*, TNNLS (CORE A\*, IF = 14.255) 2018. [↗](#)

## Awards

- 2021 **Invited PhD lightning talk**, ACM Multimedia Asia
- 2021 **ICDM 2021 Best Student Paper Candidate**, IEEE
- 2021 **3-Minute-Thesis Final-list**, UNSW, check out the [video](#) here.  
3MT is a competition for PhDs to consolidate their ideas and crystallise research discoveries in 3 minutes.
- 2021 **Google Research India Graduate Symposium Attendee**.
- 2020 **UNSW HDR Conference Grant, \$2500**
- 2019 **Outstanding Master Thesis**. Tongji University award for academic excellence during the master.
- 2018 **TJ-TUM Industrial 4.0 Symposium**. Selected to present the master project in Technical University of Munich.
- 2015 **Excellence Exchange Scholarship**. Sponsored by China-Scholarship-Council for exchange program in RMIT.

## Tutoring

- Und.Course COMM1190 "Data, Insights, Decisions", Term 3 2021, UNSW.
- Und.Course INFS3830 "Social Media and Analytics", Term 1 2022, UNSW.
- Post.Course INFS5730 "Social Media and Enterprise 2.0", Term 1 2022, UNSW.
- Mas.Course ZZEN9444 "Neural Networks, Deep Learning", Term 3, 2022, UNSW.

## Skills

- Algorithms **Neural Processes (approximation of Gaussian Processes with deep models for uncertainty estimation)**, Variational Inference, Few-shot Learning, Self-supervised Learning, brain imaging analysis.
- Languages Python, Matlab, R, C++, SQL.
- Frameworks PyTorch, NumPy, Tensorflow, Scikit-learn, Pandas.
- Misc. Git, LaTeX.

## Other Projects

- 2020 **Spatial-Temporal Data Mining for Smart Cities** with Dr. [Lei Bai](#). (University of Sydney)  
<https://www.researchgate.net/project/Spatial-Temporal-Data-Mining-for-Smart-Cities>  
Spatial and temporal knowledge exploitation on Public transportation systems in New South Wales.
- 2019 **Concept Drift Detection in HSR Pantograph Systems** with Prof. Qi Kang (Tongji University)  
<https://www.researchgate.net/project/Concept-Drift-Detection-2>  
Distributional drifts representation and tracing in non-stationary environments.

## Languages

English (professional working proficiency) · Mandarin (native)

## Interests and Volunteering

- Term2 2020 **Personalized English Language Enhancement PELE** · Mentor  
Assisting UNSW linguistic A. Prof. [Mira Kim](#) with the Personalised English model to address the issue of international students' English Language Proficiency in Australian higher education. Check out Mira's latest work [here](#)
- 2012 - **Dialects and Psychology** · Interests  
Strong curiosity in people, been travelled and studied in many places, love "guessing" and "classifying" a person's hometown by the dialect. Interested in psychological explanation for human behaviors, recently reading *The Social Animal* by Elliot Aronson.