XINXING WU, PH.D.

Assistant Profreesor at Midway University

GitHub — https://github.com/xinxingwu-uk

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OVERVIEW

- *Solid* **academic research** (**First author** of top computer conferences and journal including NeurIPS, AAAI, IJCAI, IEEE Transactions on Neural Networks and Learning Systems, . . . ; Medical journals including Alzheimer's & Dementia, Journal of Alzheimer's Disease, . . .)
- **Rich teaching experience** *in computer science courses*
- *Project-based experience* **in machine learning and data analysis**
- *Extensive practice* **in programming**
- **Strong learning ability, good communication skills and team spirit**

WORK FIELDS

- **Machine Learning/Statistics:** Feature selection algorithms, deep learning models, graph neural networks, survival analysis, and statistical computing
- **Data Analysis:** Applying machine learning algorithms and statistical methods to real-world data

TECHNIQUES

- **Proficiency** in developing algorithms and models with *Python*
- **Years** of project-based computational applications of algorithms and models
- **Practical experience** in analyzing biological data, including *clinical*, *genetic*, *image*, and *longitudinal* data
- **Working knowledge** *Python,* JupyterLab; PyCharm, Visual Studio, Eclipse, Linux; *R, SQL* (Database), *Java SE, C#*

Some representative work can be found on my **GitHub** https://github.com/xinxingwu-uk

WORK AND TEACHING EXPERIENCE

Midway University, Kentucky, United States, 2023 - Present
Assistant Professor (*Research* - Machine learning algorithms for dementia data analysis; *Teaching* - Computer Science Courses: Introduction to Computer Science, Computer Programming I&II, Database Systems, Platform Technologies, Human-Computer Interaction, Networks, etc.; MBA Course: Data and Information Managementi; *Advising* - Computer science major students)

University of Kentucky, Kentucky, United States, 2019 - 2022
Postdoctoral Scholar (Machine learning - developing machine learning algorithms and models; Data analysis - applying developed algorithms and models to analyze biological data, including clinical, genetic, and longitudinal data, with Python; Video-based infrastructure damage analysis)

Boston University, Massachusetts, United States, 2018 - 2019
Visiting Researcher (Machine learning and data analysis - with *R*)

Shanghai Threebio Technology Co., Ltd. (Part-time), Shanghai, China, 2016 - 2018
Principal Investigator (Statistical computing of user purchase demand)

Fudan University, Shanghai, China, 2015 - 2016
Visiting Scholar (Statistical learning theory)

Shanghai Technical Institute of Electronics and Information, Shanghai, China, 2013 - 2018
Associate Professor (Teaching and research project - data structure and algorithm analysis, *Java SE*, *PHP*, programming on Arduino - with *Python* and *Java SE*)

Shanghai Advanced Research Institute of CAS, Shanghai, China, 2012 - 2013
Senior Algorithm Engineer (Algorithm development, programming on Tilera - with *Python*)

Shanghai Alcatel Network Support Systems Co., Ltd., Shanghai, China, 2011 - 2012
Algorithm Developer (Algorithm development - with *Java SE* and *SQL*)

EDUCATION

East China Normal University, China, **Ph.D.**
Computer Applications Technology

Anhui Normal University, China, **M.S.**
Mathematics (Probability Theory)

Huzhou University, China, **B.S.**
Mathematics and Applied Mathematics

SELECTED/REPRESENTATIVE PUBLICATIONS (First author, since 2020)

[1] **Xinxing Wu**, Junping Zhang, Wang Fei-Yue. Stability-based Generalization Analysis of Distributed Learning Algorithms for Big Data. *IEEE Transactions on Neural Networks and Learning Systems*, 2020, 31 (3), 801-812. **Paper link** **Paper codes**

[2] **Xinxing Wu**, Qiang Cheng. Fractal Autoencoders for Feature Selection. *The 35th AAAI Conference on Artificial Intelligence (AAAI 2021)*. 2021. **Paper link** **Paper codes**

[3] **Xinxing Wu**, Chong Peng, Peter T. Nelson, et al. Random Forest-Integrated Analysis in AD and LATE Brain Transcriptome-Wide Data to Identify Disease-Specific Gene Expression. *PLOS One*, 2021, 16 (9), e0256648. **Paper link** **Paper codes**

[4] **Xinxing Wu**, Chong Peng, Donna M. Wilcock, et al. PRIME Uncovers Circadian Oscillation Patterns and Links with Alzheimer's Disease in Untimed Genome-Wide Gene Expression Data across Multiple Regions of Human Brain. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, 2021, 17 (S5), e053266. **Paper link**

[5] **Xinxing Wu**, Qiang Cheng. Algorithmic Stability and Generalization of An Unsupervised Feature Selection Algorithm. *The 35th Conference on Neural Information Processing Systems (NeurIPS 2021)*. 2021. **Paper link** **Paper codes**

[6] **Xinxing Wu**, Chong Peng, Peter T. Nelson, et al. Machine Learning Approach Predicts Probability of Time to Stage-Specific Conversion of Alzheimer's Disease. *Journal of Alzheimer's Disease*, 2022, 90 (2), 1-13. **Paper link** **Paper codes**

[7] **Xinxing Wu**, Chong Peng, Peter T. Nelson, Qiang Cheng. Alcoho Inake Affects AD and LATE: A Telltale Lifestyle from Two Large-Scale Datasets. 2022. **Paper link**

[8] **Xinxing Wu**, Chong Peng, Peter T. Nelson, et al. Deep Learning Algorithm Reveals Probabilities of Stage-Specific Time to Conversion in Individuals with Neurodegenerative Disease LATE. *Alzheimer's & Dementia: Translational Research & Clinical Interventions*, 2022, 8(1):1-9. **Paper link** **Paper codes**

[9] **Xinxing Wu**, Qiang Cheng. Deepened Graph Auto-Encoders Help Stabilize an Enhance Link

Prediction. *The 31st International Joint Conference on Artificial Intelligence and the 25th Europe an Conference on Artificial Intelligence (IJCAI 2022)*. 2022. **Paper link** **Paper codes**

[10] **Xinxing Wu**, Peter T. Nelson, Qiang Cheng. Positive effect of moderate alcohol intake for AD. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, 2023, 19, e063758. **Paper link**

[11] **Xinxing Wu**, Chong Peng, Qiang Cheng. Sex-adjusted blood biomarkers differentiate AD from LATE. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, 2023, 19, e060446. **Pape link**

ACADEMIC ACTIVITIES

- **Program Committee Member of International Conferences:** NeurIPS, ICML, AAAI, CVPR, IJCAI, ICLR, ICCV, ECCV, WWW, AMIA, FSDM, MLIS, CAIT ...

- **Journal Reviewer:** TMLR, CAAI Transactions on Intelligence Technology, Artificial Intelligence in Medicine, Heliyon, International Neuropsychiatric Disease Journa, Journal of Advances in Biology & Biotechnology, Advances in Research, ...

- **Technical Chair** of the International Conference on Big Data Science and Management Engineering (BDSME 2023)

- **Principle investigator** of the **Shanghai Talent Development Fund** (Grant No. 201629), 2016

SOFTWARE COPYRIGHTS

[1] **Xinxing Wu**, Junyan Li. The visualization measurement tool of Software reliability v2.0 (2014SR117616, Java SE), software copyright, 2014, 8 (In Chinese)

[2] Junyan Li, Hao Lu, **Xinxing Wu**, Feng Tao. The visualization calculation tool of sample data v1.0 (2014SR079068, Java SE), software copyright, 2014, 6 (In Chinese)

CERTIFICATION

[1] Red Hat Certified Engineer

[2] Red Hat Certified System Administrator