Ye Wei

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Education

Loughborough University (Oct. 2021 - Present) **Loughborough, UK**
PhD research in Machine Learning at Department of Computer Science
Supervised by Dr Hui Fang and Dr Haitao He
Shanghai Jiao Tong University (Sept. 2017 – Aug. 2021) **Shanghai, China**
BSc in Electrical and Computer Engineering

Research Experience

PhD Research, Department of Computer Science, Loughborough University (Oct. 2021 - Present)
- City-scale congestion prediction using graph neural networks (GNNs)
- Spatio-temporal traffic flow prediction with conditional neural processes (CNPs)

Research Assistant, Laboratory for Emerging Memory and Low Power Computing, Shanghai Jiao Tong University (Aug. 2023– Dec. 2023)
- Analysing random telegraph noise (RTN) with Transformer-based models
- Predicting the aging delay time of circuits using graph neural networks
- Supervised by Prof. Zhigang Ji and Prof. Pengpeng Ren

Research Assistant, Advanced Network Laboratory, Shanghai Jiao Tong University (Oct. 2019 – Sept. 2021)
- Study on the task assignment problem in mobile crowdsourcing
- Supervised by Prof. Xiaofeng Gao

Awards

Enrichment Scheme Placement Award provided by the Alan Turing Institute (UK's national institute for data science and artificial intelligence) (Oct. 2023 – Mar. 2024)
Seventh Place of NeurIPS 2022 Traffic4cast Core Competition (Dec. 2022)
Second Prize of the 7th "Qian Xuesen Cup" of Shanghai Jiao Tong University (Apr. 2021)
Silver Award in the Design Expo of University of Michigan-Shanghai Jiao Tong University Joint Institute (Dec. 2020)

Teaching Experience

Teaching Assistant, Department of Computer Science, Loughborough University
- Computer Graphics Module *(Undergraduate)* (Oct. 2023 – Dec. 2023)
- Web Programming Module *(Undergraduate)* (Feb. 2023 – May 2023)
- AI and Applied Machine Learning Module *(Postgraduate)* (Feb. 2023 – Mar. 2023)
- Computer Vision Module *(Postgraduate)* (Feb. 2023 & Feb. 2024)
- Computer Animation Module *(Undergraduate)* (Feb. 2022 – May 2022)

Publications

Neun, Moritz, et al. "Traffic4cast at NeurIPS 2022–predict dynamics along graph edges from sparse node data: Whole city traffic and eta from stationary vehicle detectors." *NeurIPS 2022 Competition Track*. PMLR, 2022.
Ye Wei, et al. "A memory-based conditional neural process model for traffic prediction." *Transportation Research Part C: Emerging Technologies*, manuscript under review.
Jinfeng Ye, et al. "ATAFAN: Design-friendly aging-aware timing analysis framework based on hybrid graph

network." *Design Automation Conference (DAC) 2024*, manuscript under review.

Ye Wei, et al. "Memory-facilitated Joint-space Shift Adaptation in Traffic Forecasting." *The International Joint Conference on Neural Networks (IJCNN) 2024*, manuscript under review.

Ye Wei, et al. "Robust Traffic Forecasting with Neural Processes-based Noisy Label Learning." *The 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD '24)*, manuscript under review.

Presentations and Talks

- Urban Analytics Group, the Alan Turing Institute (Nov. 2023)
- Space Time Lab, University College London (UCL) (Sept. 2023)
- HPC Event, Loughborough University (Jul. 2023)
- VAAH (Vision, AI, Autonomous and Human Centered Systems) seminar, Loughborough University (Jun. 2023)
- Traffic4cast Workshop at NeurIPS 2022 (Dec. 2022)

Relevant Research Skills

- Programming in Python, C/C++, MATLAB, Verilog, JavaScript, Arduino
- Writing using LaTeX
- Using HPC server with SLURM commands