Wenxing Deng

Mobile: (86)188-1072-5622 | **Website:** https://wenxingdeng.github.io/ | **Email:** wenxing.deng622@gmail.com

Education

Beijing University of Technology Beijing, China

Bachelor of Engineering in Automation *Sept. 2017 - July 2021*

GPA: 3.88/4.0 (Rank: 3/81)

Courses: Fundamentals of Computer Software, Application of Computer Network, Principal and Applications of Microcomputer, Computer Simulation of Controlled Systems, Embedded Systems.
Coursera Courses: Data Structures, Operating Systems, Discrete Mathematics Generality , IBM Data Science.

Publications

[1] Xuan Wu, **Wenxing Deng**, Chang Lu, Peiqi Wei, Yizheng Zhao, and Hao Feng. UI-FAME: A High-Performance Forgetting System for Creating Views of Ontologies. In *Proc. CIKM 2020*. doi: 10.1145/3340531.3417412.

[2] Jiaqi Li, **Wenxing Deng**, and Yizheng Zhao. Computing Views of OWL Ontologies for the Semantic Web: A Forgetting-Based Approach. Submitted to *WWW 2021* (in rebuttal, current scores: accept, accept, weak accept).

[3] Zhao Liu, Brook Zhang, Chang Lu, **Wenxing Deng**, Hao Feng, and Yizheng Zhao. Tracking Semantic Evolutionary Changes in Large-Scale Medical Ontologies. Submitted to *VLDB 2021*.

[4] Tongchao Cui, **Wenxing Deng**, Liguo Zhang, Zibo Ma, and Fengyao Jiang. Adaptive Optimization of Traffic Signal Timing via Deep Reinforcement Learning. Submitted to *Journal of Advanced Transportation*.

Research Experience

Tracking Semantic Evolutionary Changes in Large-Scale Medical Knowledge Bases Nanjing, China

Research Assistant *June 2020 - Oct. 2020*

- Developed an advanced reasoning approach to tracking the semantic difference in the meanings of medical terms between different versions of medical knowledge bases.
- Built a bespoke semantic difference tracking system as part of SNOMED International's framework for quality control of their medical data.

Computing Views of OWL Ontologies for the Semantic Web Nanjing, China
(National Natural Science Foundation of China: No. 62006114)

Research Assistant *Mar. 2020 - Oct. 2020*

- Developed a logic-based, principled approach to creating views of OWL ontologies specified in the description logic $\mathcal{ALCHIO}$.
- Implemented a prototype of the approach, and compared it with existing tools LETHE and FAME, with results showing better success rates and performance.

Optimization of Traffic Signal Timing via Deep Reinforcement Learning Beijing, China

Research Assistant *Mar. 2020 - Oct. 2020*

- Proposed a traffic light timing optimization scheme based on deep reinforcement learning, which dynamically adjusts the green light time and phase at an intersection with the goal of minimizing vehicle delay time.
- Implemented a deep reinforcement learning network (in Python), and reduced waiting time and average queue length in various traffic flow modes by more than 33.4% compared to traditional timing control.

UI-FAME: A High-Performance Forgetting System for Creating Views of Ontologies Nanjing, China
(in collaboration with Babylon Health, an e-health vendor based in London)

Research Assistant *Sept. 2019 - June 2020*

- Implemented and optimized the UI-FAME system for a non-standard reasoning procedure called forgetting for OWL ontologies specified in the description logic $\mathcal{ALC}$.
- Designed ontology versioning framework for Babylon ontologies with UI-FAME as back-end, and conducted extensive trials in Babylon set-up with involvement of their software/knowledge engineers.

Industry Experience

New Energy Vehicle Clearing System - Jiangling Motors Nanchang, China

Software Engineering Intern *Aug. 2020 - Sept. 2020*

- Optimized and maintained a database containing vehicle information and personnel information via MySQL, which support the clearing system used by the whole sales department and the finance department.
- Preprocessed and filtered the receipts of vehicles into different classes, reducing the overall process time by 2%.

Skills

- **Programming:** Python, C, Java, SQL, LaTeX, assembler language
- **Frameworks & Software:** Matlab, Numpy, Pandas, GIT