Baixiang Huang

baixianghuang.github.io Google Scholar huang.baixiang@u.nus.edu

EDUCATION

National University of Singapore — Singapore
Master of Computing — Aug 2020 – Feb 2022

Central South University — China
B. Eng., Computer Science and Technology — Sep 2015 – Jun 2019

PUBLICATIONS

- **Baixiang Huang**, Bryan Hooi. Traffic Accident Prediction using Graph Neural Networks: New Datasets and the TRAVEL Model, *The ACM Web Conference Workshop on Graph Learning Benchmarks*, 2022. Contributed talk. [PDF] [Data]
- **Baixiang Huang**, Wei Liu, Tian Wang, et al. Deployment Optimization of Data Centers in Vehicular Networks. *IEEE Access*, 2019. [PDF]
- **Baixiang Huang**, Anfeng Liu, Chengyuan Zhang, et al. Caching Joint Shortcut Routing to Improve Quality of Service for Information-Centric Networking. *Sensors*, 2018. [PDF]

RESEARCH EXPERIENCE

National University of Singapore, supervisor: Professor Bryan Hooi — Jan 2021 – Apr 2022

- Built and released one thousand graph-based traffic accident benchmark datasets (TAB-1k).
- Proposed a novel graph neural network framework (TRAVEL) to capture angular and directional information from road networks.
- Evaluated the proposed framework against state-of-the-art machine learning approaches.
- Achieved the best overall performance on the created datasets.

Central South University, supervisor: Professor Anfeng Liu — Mar 2018 – Apr 2019

- Simulated the process of collecting the condition data of infrastructure using taxis.
- Proposed three schemes to improve the efficiency of data collection.
- Analyzed and tested the proposed schemes on real-world taxi trajectory data.
- Proved the feasibility of using cabs to facilitate the maintenance of infrastructure.

Central South University, supervisor: Professor Anfeng Liu — Feb 2017 – Mar 2018

- Simulated a scenario of information-centric networking.
- Developed two algorithms to improve the routing and replacement of data packets.
- Achieved improvements in terms of delay, cache hits, and network traffic.

PROJECT EXPERIENCE

Online Course Platform [Code]

- Built an online course website with Spring Cloud.
- Applied Apache FreeMarker to accelerate development by generating code for similar services.
- Implemented ApsaraVideo VOD APIs to encrypt and authorize course videos.
- Designed and developed web pages using Vue and Bootstrap.

SKILLS

- Frameworks: PyTorch, PyG, TensorFlow, MyBatis, Spring Boot, Vue
- Programming Languages: Java, Python, HTML/CSS
- Miscellaneous: LaTeX, Linux, MySQL, Git, Maven