Baixiang Huang

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EDUCATION

National University of Singapore	Singapore
Master of Computing	Aug 2020 – Present

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, *Master's Thesis*, 2021. [Data]

- **Baixiang Huang**, Wei Liu, Tian Wang, et al. Deployment Optimization of Data Centers in Vehicular Networks[J]. *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[J]. *Sensors*, 2018. [PDF]

RESEARCH EXPERIENCE

National University of Singapore, supervisor: Professor Bryan Hooi   Dec 2020 – Nov 2021
- Built and released a set of graph-based traffic accident benchmark datasets for accident prediction problems.
- Proposed a novel Graph Neural Network architecture (TRAVEL) to capture angular and directional information from road networks.
- Evaluated the TRAVEL framework against fourteen state-of-the-art machine learning approaches.
- Achieved the best performance on the created benchmark datasets.

Central South University, supervisor: Professor Anfeng Liu   Mar 2018 – Apr 2019
- Modeled 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 deployment schemes on real-world trajectory data of taxis.
- Proved the feasibility of using cabs to collect the state data of infrastructure.

Central South University, supervisor: Professor Anfeng Liu   Feb 2017 – Mar 2018
- Simulated a scenario of Information-Centric Networking (ICN).
- 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]
- Created an online course website with Spring Cloud.
- Implemented API of ApsaraVideo for VOD provided by Alibaba Cloud to encrypt and authorize course videos.
- Applied Apache FreeMarker to accelerate development by generating code for similar services.
- Designed and developed web pages using Vue and Bootstrap.

SKILLS

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