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. [IEEE Xplore]
- **Baixiang Huang**, Anfeng Liu, Chengyuan Zhang, et al. Caching Joint Shortcut Routing to Improve Quality of Service for Information-Centric Networking[J]. *Sensors*, 2018. [MDPI]

RESEARCH EXPERIENCE

National University of Singapore, supervisor: Professor Bryan Hooi — Dec 2020 – Nov 2021

- Built and released four 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 proposed TRAVEL framework against nine state-of-the-art machine learning approaches.
- Achieved the best performance on the real-world benchmark datasets.

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

- Modeled a vehicular network consisting of sensors, vehicles, and data centers.
- Improved the efficiency of data collection in smart cities by deploying data centers using the bisecting K-means algorithm.
- Analyzed and tested the proposed deployment schemes on more than 25 million records of real-world trajectory data.

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.
- Applied Apache FreeMarker to accelerate development by generating code for similar services.
- Implemented API of ApsaraVideo for VOD provided by Alibaba Cloud to encrypt and authorize course videos.
- 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