HANFU ZHAO

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engineer with solid data skill and diverse experience, eager for a data science position

Education

COLUMBIA UNIVERSITY, Master of Science in Civil Engineering 2014

THE PENN STATE UNIV., Bachelor of Science in Biological Engineering 2012

Independent Projects

KDD2019 CTR Prediction Model Implementation 2019

- Implemented KDD2019 DeepGBM, a Deep-Learning model that integrating Neural Network and Gradient Boosting Decision Tree.
- Distilled GBDT's information from **XGBoost** to NN representation, then joined with embedded vectors from Factorization Machine, then trained End-to-End in both Offline Learning mode and Online Learning mode for streaming data in **PyTorch.**
- Enhanced performance with feature pre-processing and hyperparameter tuning to reach paper's result.

CPC Member Data Portal 2019

- Collected and cleaned Party's membership information from static and streaming sources to chronological records using **Scrapy**, covering more than 90% officials at deputy ministerial level and above.
- Packaged data to cloud service with **Neo4J** graph database, **Flask** and **Dash** web frameworks, and **Docker** deployment.

Data Science Advocacy 2018 - Present

- Lectured data seminars for internal and affiliated institutes, covering **R**, **Python**, and applied statistics.
- Drafting Machine Learning tutorial series, focusing on the fundamentals like Calculus, Linear Algebra, Probabilities and so.

Work Experience

China Academy of Urban Planning 2018 - Present

- Developed geographic dashboard with **R** and **MongoDB** to provide visual understanding over city-scale bike sharing operations.
- Provided technical support for Beijing Sub-Center Water Resources and Water Ecology Masterplan, and state level Sponge City Pilot Program in Wuhan and Zhuzhou with expertise in stormwater management.

Philadelphia Water Department 2014 - 2018

- Provided project management and technical support for the 5-year progress compliance of the City's $1.5 billion Stormwater Infrastructure program.
- Developed interactive dashboard for stormwater monitoring data to process, store visualize data for engineering inference.
- Piloted projects with first-time implemented technologies in the city.
- Coordinated federal granted research programs across five collaborating universities.