Chengyin Li

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Education

Wayne State University — MI, US
Ph.D. in Computer Science; ***GPA: 3.94/4.00*** — *Sep 2019 – May 2024 (Expected)*

The Chinese University of Hong Kong (Shenzhen) — Shenzhen, China
Ph.D. Student in Computer and Information Engineering — *Aug 2017 – May 2018*

University of Chinese Academy of Sciences — Beijing, China
M.E. in Chemical Engineering — *Sep 2013 – Jun 2016*

Nanjing University of Science and Technology — Nanjing, China
B.E. in Chemical Engineering — *Sep 2009 – Jun 2013*

Research Experience

Wayne State University — Detroit, MI, US
Graduate Research Assistant — *Aug 2019 – now*

- **Spatial-temporal Data Mining:** Research on deep neural network models for on-device foot traffic forecasting for hospitals in Detroit. Also, creating models used for EV driver-centered charging station recommendation leveraging both user preference and external incentives from a shorter wait time and driving time for charging.
- **Machine Learning for Healthcare:** Built an explainable deep neural network model to classify covid patients with severe or non-severe with micro-RNA features.
- **Explainable Sentiment Analysis with Transformer:** Designed a class activation transformer framework to give prediction and explanation simultaneously over the sentiment analysis task in NLP.

SIAT, Chinese Academy of Sciences — Shenzhen, China
Visiting Student with Prof. Yu Qiao — *Aug 2018 - May 2019*

- **Image Super-Resolution and Denoising:** Created models for low-level image super-resolution and denoising tasks with the end-to-end deep neural networks with PyTorch.

Publications

Li C, Dong Z, Fisher N, Zhu D. Coupling User Preference with External Rewards to Enable Driver-centered and Resource-aware EV Charging Recommendation. *ECML PKDD 2022.*

Qiang Y, **Li C**, Brocanelli M, Zhu D. Counterfactual Interpolation Augmentation (CIA): A Unifed Approach to Enhance Fairness and Explainability of DNN. *IJCAI 2022.*

Li X, Qiang Y, **Li C**, Zhu D. COVID-MobileXpert: On-Device COVID-19 Screening using Snapshots of Chest X-Ray. *BIBM 2020.*

Projects

Detroit Air Net: Developed a spatial-temporal PM2.5 monitoring and reporting system with JavaScript, HTML, and CSS.

Drought Index Forecasting: Drought index forecasting with classic ARIMA models and neural networks like LSTM/GRU and TCN models.

Region Embedding with Multimodal Features: , With unsupervised learning approaches, street view images, traffic flows, and social media texts are used to learn a compact embedding for each census tract in Detroit.

Skills

General: ML/DL modeling in CV/NLP; Data analysis

Tools: Python, R, SQL, JavaScript, PHP, HTML and CSS; PyTorch, Keras, and Scikit-Learn; Git, Github

Languages: English (Professional), Chinese (Native)