XIAOQI ZHUANG

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EDUCATION

2019.2 – 2020.12 **UNIVERSITY OF QUEENSLAND** **Brisbane, Australia**

Master of Data Science**, 6.5/7 **High Distinction

- Data Mining (7/7), Machine Learning (6/7), Pattern Recognition and Analysis (7/7), Numerical Linear Algebra and Optimisation (7/7)

2014.9 – 2018.7 **WUHAN UNIVERSITY OF TECHNOLOGY (PROJECT 211)** **Wuhan, China**

Bachelor of Information and Computing Science

Core Modules:

- Mathematical Analysis, Advanced Algebra
- Data Structure and Algorithm, Basis of Computer Programming Design

PROFESSIONAL EXPERIENCES

2021.9 - Present Algorithm Engineer - **HUAWEI TECHNOLOGY LTD** **Shenzhen, China**

- *Disk Failure Prediction using multi-dimensional SMART time series prediction techniques.* Achieved 90%+ precision, 40% recall, increased prediction efficiency by more than 1000 times, achieved average 4 days in advance prediction of hard disk failure.
- *Wafer Map Failure Detection using Convolutional Neural Networks (CNNs) with spatial pyramid pooling.* Achieved 90%+ precision, 70%+ recall, 5%~10% precision improvement on each category of fault wafer maps compared with industrial benchmarks.
- *Concept Drift Detection and Out-of-Distribution Detection on Fault Classification Neural Network based on Fiber Optical Sensor.* Achieved 80%+ accuracy, distance-based and cluster-based methods, related survey research and reproduction.

2021.4 - 2021.8 Algorithm Engineer - **ATOM INTELLIGENCE** **Shanghai, China**

- *Involved in the development of recommender systems for Sephora Beauty Insider Community*:
  1. Used BERT-Chinese model to extract embeddings of posts in the community.
  2. Evaluated model performance using metrics such as cosine-similarity.
  3. User portraits analysis using clustering algorithms such as K-means clustering.
  4. Candidate posts ranking algorithm development using Light-GBM models.

PROJECT EXPERIENCES

2020.10 **IMAGE SEGMENTATION MODEL FOR SKIN INJURY (COURSE PROJECT)**

- Reproduced a paper *[1]* which proposed an auto-encoder based on U-Net and ResNet blocks. Achieved 84% F1-Score on provided dataset.

2020.2 – 2020.11 **TRANSLINK BUS PASSENGER FLOW PREDICTION (CAPSTONE PROJECT)**

- Built a LSTM (Long short-term memory) model on multivariate time series about bus passenger flow to realize multi-step forecasting. Achieved 27 RMSE for the passenger flow in each 15 minutes each route.
- Developed a webpage for presentation based on *flask.*
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PUBLICATION

First Author: The Influences of Color and Shape Features in Visual Contrastive Learning.
https://arxiv.org/abs/2301.12459

ADDITIONAL

Research Interest: unsupervised learning, representation learning, data mining
Research Expertise: CNN, Contrastive Learning, Random Forest, XGBoost
IT Skills: Python (HGSD* Professional)[1], PyTorch, R, Java
Interests and Achievements:

- **Personal Techniques Blog**: **XiaoqiZhuang.github.io**[2] more than 10 blogs about Data Mining, frequency SQL and Pandas commands, several surveys on **Contrastive Learning**.
- Voluntary teaching assistant to Data Mining course, 2019, made lecture notes***** for peers coding.
- Data Structure and Algorithms: submitted 150+ topics on LeetCode.

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[1] *HGSD: Huawei General Software Development Certification. Professional level is the highest level.*

[2] *https://xiaoqizhuang.github.io/2019/11/29/Data%20Mining%20%E7%AC%94%E8%AE%B0%20/#more*