

Zongyue Li

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EDUCATION

Technical University of Munich Master of Electrical and Computer Engineering	Oct 2018 - Oct 2022 Munich
<ul style="list-style-type: none">Related Course: Applied Machine Learning, Pattern Recognition, Information Retrieval in high dimensional data	
Xi'an University of Posts & Telecommunication Bachelor of Communications Engineering	Aug 2013 - Jul 2017 Xi'an
<ul style="list-style-type: none">Related course: Data Structure and algorithm, Information Theory, Communications Principle, Signal and System	

INDUSTRIAL EXPERIENCE

BNP Paribas, Research Intern in Recommender System AI Lab, implemented GNN-based dynamic Recommender System	Oct 2020 - May 2021 Frankfurt am Main
<ul style="list-style-type: none">Data Processing: added numerical features (e.g. Mature, Issue, CouponRate and Tradestatus, etc) and categorical features(e.g. Subsector, Currency, National and BloombergRatevalue, etc)to the user-item interaction datasetImplemented baseline models: MF, PinSage, GAT, and HCF (history-augmented collaborative filtering) as graph encoderApplied PowerMean (paper DeeperGCN) to GCN-based models to learn a generalized mean-max aggregation functionAdded temporal parameters and utilized information extracted from snapshots before time t to predict link existence in time twith evaluation metrics recall@20 and ndcg@20, dynamic models showed domination over static models	
BNP Paribas, Research Intern in NLP AI Lab, research area: NER and Text Classification, Fin-tech product	Apr 2020 - Sep 2020 Frankfurt am Main
<ul style="list-style-type: none">Implemented the pre-training of Electra model using data wiki-103, fine-tuned the pre-trained Electra on GLUE benchmarkFine-tuned the pre-trained Electra on bank datasets for text classification and NER tagging, outperformed Bert(both)Applied CRF model on the top of Transformer, got accuracy improvement on both tasks compared with LSTM-on-top model.Implemented a pricing algorithm to predict the payoff of Call/Put option, which consumed much less calibration time to achieve a comparable result, compared with the Mento Carlo pricing algorithm.	
General Electric Test Intern Test and Electrical Department	Apr 2017 - Sep 2017 Beijing
<ul style="list-style-type: none">developed python script for reliability test of the X-Ray machine and developed a control panel (C++) for machine controlling	

RESEARCH PROJECT

Master Thesis : Towards GCN-based Robust Recommendation System via Contrastive Learning	Feb 2022 - Present
<ul style="list-style-type: none">Devised a novel adversary attack method to generate unnoticeable perturbations on the original adjacency matrixDevised a defense framework utilizing contrastive learning to build robust GCN-based collaborative filtering modelswith evaluation metrics recall@20 and ndcg@20, the proposed robust model achieved better performance on both original and perturbed adjacency matrices with different attack strategies, also doing well under the long tail phenomenon	
Forecasting Question Answering over Temporal Knowledge Graphs Research Assistant at LMU, first co-author	Sep 2021 - Aug 2022 Munich
<ul style="list-style-type: none">proposed and implemented a large-scale benchmark temporal KGQA dataset: ForecastTKGQA for fact reasoningimplemented MultiGen for entity prediction, which demonstrated a dramatic performance improvement over baselineswith metrics MRR, Hit@1, and Hit@10, the proposed ForecastTKGQA outperformed all other KG and LM baselines	
Time-Varying Systems and Computations Poster Design Best Poster Award at TUM TVSC course	Dec 2021 - Feb 2022 Munich
<ul style="list-style-type: none">Designed a poster in team for the paper ACDC: A Structured Efficient Linear LayerJoined a poster session to give a presentation based on the poster work	
Tensorflow Tutorial	Jul 2019 - Dec 2019
<ul style="list-style-type: none">implemented basic machine learning algorithms(LR, KMeans, Random Forest, GBDT)and basic CNN on MNISTimplemented word2vec Skip-gram model for pre-training of word vector, dataset: Wiki Matt MahoneySeq2Seq Model: Built a seq2seq model with LSTM to resort string in alphabet order, the dataset is generated by myself	
Prediction of Film Revenue Course Design (Applied Machine Learning)	Apr 2019 - Jul 2019
<ul style="list-style-type: none">Dataset: meta-data from IMDb and movie trailers video data from Youtube. Fit PCA-linear regression model on meta-data.Utilized Inception V3 as an encoder. and for each trailer, generated k feature maps for k extracted frames. Trained a bi-LSTM model based on these feature maps and used the last hidden state as input data to train a linear regression model.Result: Mean Absolute Error is around 7.2 M dollars by averaging results from PCA-LR and bi-LSTM LR.	

Skills

- Frameworks & Languages :** Python (advanced), Java/C++ (good), Pytorch(advanced), Tensorflow(good), numpy (advanced)
- Version Control:** Git, GitHub, Bitbucket
- Language Skill:** English (fluent), German (fluent), Chinese (native), Korean (basic)
- Sport:** Swim: Breaststroke 100m: 1'26", Freestyle 100m: 1'08"