Jimin Huang

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Education

MS.C, Wuhan University, Computer Software and Theory, Master of Science Program, Ranking: top 15%,
supervisor: Professor Min Peng 2015.09 – 2018.07

B.S, Wuhan University, Computer Science and Technology, Ranking: top 15%,
Postgraduate recommendation 2011.09 – 2015.07

Working Experience

Technical co-founder, Auto Trading Group, Research & Development, ChanceFocus Asset Management (Shanghai) Company, Shanghai, China 2018.07 – Present

Research Interests

- **Computational finance:** deep learning in asset pricing, portfolio management and pair trading
- **Natural language processing:** representation learning for text analysis and knowledge extraction

Research Project

The prediction and explanation of asset pricing – Auto Trading Group 2019.07 – Present

- **Introduce:** Focusing on developing machine learning based asset price prediction and explanation of the predictions
- **Work:** Proposing Transformer based stock market prediction and asset price prediction incorporating macro economic variables.
- **Method:** Building a pretrained Transformer based multi-asset predicting method; Utilizing macro economic variables to model the economic cycle; Capturing the correlations between assets and market to improve the overall prediction and explanation
- **Results:** On historical Chinese stock market data, we improve the self-designed metrics more that 3% with Transformers and Macro-level information
- **Ranking:** At the beginning of our work, we attended the IEEE Investment Ranking Challenge and achieved the 9th in NDCG in the first round (https://www.crowdai.org/3a8560f7cd76).

The comparison and analysis of Chinese industry classifications for stocks – Auto Trading Group 2020.11 – Present

- **Introduce:** Precisely classify Chinese stocks and evaluate their effects in predictions.
- **Work:** Proposing evaluation of industry classifications based on return comovement, factors and predictions on sector return
- **Method:** Compare industry classifications and machine learning based classification on Chinese stock market; Decomposing the return of asset into market, industry and idio components and analyze the effect of different classifications; Utilizing Transformer based predicting method to predict the profit of industries
- **Results:** explaining the effect of industry classification on prediction and achieve a more than 5% improvement in prediction.

Tick-level automatic pair trading system – Auto Trading Group 2020.07 – 2021.03

- **Introduce:** Real-time automatic pair trading system that can receive tick-level trading data, generate trading signals and send orders without human efforts.
- **Work:** Design the system architecture and develop the backtest and trading framework
- **Method:** Real-time data processing to receive all the trading data of all stocks and index futures at tick level, namely that 4000+ points per 1.5 seconds and 300+ million points per day; Real-time strategy generation

to generate trading signals less than 0.5s via deep learning based methods; Real-time trading execution to send orders and update position and holding status in 0.5s.
- **Results:** We have achieved 10000+ tick-level backtesting and 5000+ hours of tick-level trading with average response time less than 0.8s.

Research Intern

Phone Number Extraction – CooTek Big Data Group 2014.07 – 2014.09

- **Introduce:** Extracting phone numbers from web pages of various countries and languages.
- **Work:** Proposing Random Forest based phone number extraction method
- **Method:** Preprocessing and extracting features from the tree structure of web pages; Classify digit-like text via Random Forest based classification method.
- **Results:** On collected dataset, we achieved 88% accuracy in phone number extraction

Skills

- Python > Go > Matlab > C
- PyTorch == Tensorflow
- Kafka == Redis == Kubernetes == Docker == Clickhouse
- Languages: Chinese, English(IELTS 7.5)

MS.C. Thesis

Jimin Huang (2018), "Unsupervised Relation Extraction Based on Matrix Factorization," Wuhan University, China.

Publication

1. Xiao Zhang, Jimin Huang*, Yanzhao Lai et al. From classification to prediction: an empirical analysis of industry classifications in Chinese stock market. (Working Paper)
2. Weiguang Han, Jimin Huang, Qianqian Xie et al. Deep Reinforcement Learning Pairs Trading With Siamese Neural Network. (In Progress)
3. Qianqian Xie, Yutao Zhu, Jimin Huang, Jian-Yun Nie. Graph Collaborative Topic Model for Citation Recommendation (TOIS 2021)
4. Qianqian Xie, Jimin Huang, Pan Du et al. Dual Graph Attention Topic Auto-Encoder with Higher-order Proximity (Findings of ACL 2021)
5. Qianqian Xie, Jimin Huang, J Nie et al. Graph Topic Neural Network for Document Representation (WWW 2021)
6. Qianqian Xie, Jimin Huang, J Nie et al. Inductive Topic Variational Graph Auto-Encoder for Text Classification (NAACL 2021)
7. Qianqian Xie, Prayag T, Jimin Huang et al. Semantic Reinforcement Neural Variational Sparse Topic Modelling (IPM 2021)
8. Qianqian Xie, Jimin Huang, M Peng, Wang H, et al. Discriminative Regularized Deep Generative Models for Semi-Supervised Learning (ICDM 2019, acceptance rate 9%)
9. Peng, Min, Qianqian Xie, Hua Wang, Yanchun Zhang, Xiuzhen Zhang, Jimin Huang and Gang Tian. Neural Sparse Topical Coding. (ACL 2018)
10. Min Peng (Supervisor), Jimin Huang †, et al. Improving distant supervision of relation extraction with unsupervised methods. (WISE 2016).

11. Qianqian Xie, Peng M， Jimin Huang, et al. Discriminative Regularization with Conditional Generative Adversarial Nets for Semi-supervised Learning (IJCNN 2019)
12. Peng, Min, Qianqian Xie, Jiajia Huang, Jiahui Zhu, Shuang Ouyang, Jimin Huang and Gang Tian. Sparse Topical Coding with Sparse Groups (WAIM 2016)
13. 彭敏, 蔡明师, 黄济民, 赖彦钊, 代心媛. 一种机器学习驱动的高维量化投资模型的构建方法以及投资组合生成方法. (Patent)
14. 彭敏, 高斌龙, 黄济民, 等. 基于高质量信息提取的微博自动摘要. (Computer Engineering 2015)
15. 彭敏, 傅慧, 黄济民, 等. 基于核主成分分析与小波变换的高质量微博提取. (Computer Engineering 2016)
16. 彭敏, 张泰玮, 黄佳佳, 朱佳晖, 黄济民. 基于回归模型与谱聚类的微博突发话题检测方法 (Computer Engineering 2015)
17. 彭敏, 黄佳佳, 朱佳晖, 黄济民, 刘纪平. 基于频繁项集的海量短文本聚类与主题抽取 (Computer Research and Development 2015)

*(corresponding author) †(first student author, main contributor)

♡ Award

The Second Prize Scholarship, Wuhan University 2016.12
The Second Prize Scholarship, Wuhan University 2013.12

i Professional Experience

- Reviewer or Program Committee: ACL Rolling Review, ACL, NAACL, EMNLP, IPM, WISE, WWWJ, IEEE Transactions on Computational Social Systems, Computer Speech & Language, Journal on Communications, Chinese Journal of Computers
- Attending Conference: WWW 2021 oral, NAACL 2021 oral, ACL 2021 poster, ICDM 2019 full paper oral, WAIM 2016 oral, WISE 2016 oral, IJCNN 2019 oral
- Meeting organization: workshop finance of SMP [1]

References

- Professor Bin Li binli.whu@whu.edu.cn Google Scholar
- Professor Yanzhao Lai laiyanzhao@swjtu.edu.cn Homepage
- Professor Min Peng pengm@whu.edu.cn Google Scholar

[1] http://conference.cipsc.org.cn/smp2019/workshop-finance.html