JINYANG LI

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SKILLS

Linux shell, **Pytorch**, Tensorflow 2.0, Apache Flink, PySpark, Java, **Python**, Golang, Latex, Networkx

EDUCATION

Fu Foundation of Engineering & Applied Science, Columbia University in New York City Sept. 2018 - Feb. 2020
M.S. in Electrical Engineering, GPA: 3.70/4.00, Computer GPA: 4.00/4.00
Track: Data Driven Analysis and Computing
- Course: Bayesian Model for Machine Learning, Deep Learning, Natural Language Processing,
- Database, Data Pipeline, Reinforcement Learning, etc

School of Electrical Engineering and Automation, Harbin Institute of Technology Aug. 2013 - Jun. 2017
B.E. in Electrical Engineering and Automation, CGPA: 87.6/100, Major GPA: 90.64/100
Academic Honors & Scholarships:
- Excellent Graduation Thesis in the Department of Electrical Engineering Jul. 2017
- Chinese Delegate in Youth Assembly at United Nations Jul. 2015 - Aug. 2015
- People's Scholarship Award (Top Students with presentation) Aug.2014 - Jun. 2015

SELECTED PUBLICATIONS

Event-Product Pair Identification: A New Task to Consumption Intention Analysis in Texts
• Bibo Cai*, **Jinyang Li***, Xiao Ding, Junwen Duan, Bing Qin,Ting Liu (**co-first author**)
•Sent to 30th The World Wide Web Conference 2021 (WWW) with number:1716

Low Rank Subspace Robust Regression for Face Image Processing
•Dansong Cheng, Yongqiang Zhang, **Jinyang Li**, Feng Tian and Xiaofang Liu
• Sent to Journal Engineering Applications of Artificial Intelligence 2020

Shapelet Based Time Series Regularized Decision Tree
• **Jinyang Li**, Haiyang Liu, Xiaokang Wang
• Accepted to IEEE Proceedings of 4th International Conference on Cybernetics 2019 76-83

Random Pairwise Shapelets Forests Forest: An Effective and Interpretable Classifier for Time Series
• Jidong Yuan, Mohan Shi, Zhihai, Wang, Haiyang Liu, **Jinyang Li**
• Preprint

Research on Flow Rule and Thermal Dissipation between the Rotor Poles of a Fully Air-Cooled Hydrogenerator
• Shukuan Zhang, Weili Li, **Jinyang Li**, Likun Wang, and Xiaochen Zhang, *Member, IEEE*
• Published in IEEE Transactions on Electronics 62(6), 3430-3437 **IF: 6.498**

MAIN RESEARCH EXPERIENCES

Peking University, Department of EECS | Research Intern **Sep.2020 - Now**
MOE Key Laboratory of Machine Perception
Project I: A Knowledge-driven Neural Table-to-text Generation Network
Advisor: Professor Xihong Wu
• Annotate data collected from WikiPedia including the most frequent 1,500 attributes and 23,000 words.
• Proposed a Bi-directional Table-to-text Encoder to learn the features through minimizing the reconstruction loss.
• Implemented a Multi-choice Cloze Module as an Auxiliary Supervision task to reduce bias of Generative model.

HIT-SCIR (Social Prediction Group) | Research Intern **Feb.2020 – Aug.2020**
Social Computing and Information Retrieval Center & MOE Microsoft Research Center
Project I: A Motif Aware Heterogenous Neural Network for Event-Product Pair Extraction (Sent to WWW 2021)
Advisor: Professor Ting Liu & Researcher Xiao Ding

• Annotated an Event-Product Identification Dataset covering more than 1467 products and 7877 events.
• Proposed and constructed a novel Heterogeneous Reasoning Fusion Network to extract event node features.
• Designed a Multi-view Graphic Neural Network Aggregation to retrieve semantic and structural information of nodes.
• Newest results: In Event-Product pair Identification Mission, Our result (F1 score:92.9%) has exceeded the most cutting-edged Meta-Path based GNN Model-MAGNN (F1score:89.8%).

Project II: Consumption Intention Mining and Recommendation System in Social Media
Advisor: Professor Ting Liu & Professor Yibo Xue (from Tsinghua University)
• Preprocessed and tagged 200 million Micro-Blog and 40 million JD comments data by PySpark.
• Conducted **Repost-aware** Sentiment Analysis for the Dynamic Online Conversation Recommendation System
• Built an Event Extraction Model through Dual Reinforced Few-shot Learning and Latent Factor in a Bootstrap way.
• Designed a Weakly-Supervised Consumption Intention Word Extraction Network Based on Monte Carlo Tree Search.

IBM Massachusetts Institute of Technology Waston | Research Intern **Aug.2019 - Oct. 2019**
Project: The Research, Design, and Implement of AI Dialog System Based on Goal Planning and Deep Learning
Advisor: Researcher Fan Zhang
• Designed a Deep Reinforcement Learning Model to generate utterances following Goal Planning and Topic Coherence
• Constructed Semi-Supervised Label-Embedding Attentive model to deal with Multi-Classification problems
• Implemented Word-Spelling Checking part based on Bayesian Model and Tree-Based Machine Translation function

Tsinghua University | Research Intern **Apr.2019 - Aug. 2019**
State Key Laboratory of Intelligent Technology and Systems, SAIL Group
Project I: Shapelet Based Time Series Regularized Decision Tree & Robust Experiments for ML models
Advisor: Professor Jun Zhu
• Built a regularized Random Shapelet Forest algorithm with higher classification accuracy.
• Proposed an algorithm for the Sparse Adversarial Perturbations by L2,1-Norm Regulation.
• Optimized ADP Algorithm to diversity, the confident score of Non-Maximal Suppression in order to reinforce robustness.

University of Nottingham | Research Intern **Jan.2016 - Mar. 2016**
Department of Engineering, Advisor: Chris Gerada
Project: High Performance Motor Drive Systems for Transport Applications
• Established a high-speed flywheel energy storage system, and assembled the designed engine prototype.
• Simulated and optimized the flywheel energy storage systems based on Matlab and Fluent.
• Predicted the cycle life and operational life of engine by SVM.

Valuable Coursework / Seminar

Projects in the Electrical Engineering & Computer Science | Columbia University **Sep.2018 - Feb. 2020**
Project: A Latent-Factor based Recommendation System Optimized through EM Algorithm (*Advisor: Prof. John Paisley*)
• Design and derive math expression by Bayesian Rule and optimize User/Item Vector with EM algorithms until convergence
Project / Challenge: Cancer Metastases on Gigapixel Pathology Images in Low Devices (1/ 44 Groups)
• Built a deep ensemble neural network and designed a new pixel-based IOU metric to measure Performance
• Achieved pixel-based IOU score of 0.84 for heat map, Precision of 91.1% (Pathologists' Precision was 73.2), Recall 84%
Project: Accurate Deep Reinforcement Learning based Dependency Parsing (*Advisor: Prof. Yassine Benajiba*):
• Designed a neural network dependency parsing and utilize deep Reinforcement Learning to derive optimal transitions
Seminars in the Electrical Engineering & Computer Science | Columbia University **Dec.2018 - Mar. 2019**
• **Seminar I**: Mainstream Security Encryption Mechanisms for Federated Learning (*IBM Blockchain Team*)
• **Seminar II**: Load Shedding in a Data Stream Manager (*with Steven Qin, Zheyao Gao, Ge Qu, advised by Prof. Turaga*)

Seleted Winning Competition & Academic Activities

• 1st Prize in Trick Group of 9th "*Freescale Cup*" Intelligent Car Competition for National College Student Aug.2014
• Excellent Presentation "*Application of Quantitative Trading by Stop-Loss Strategy and Machine Learning*" in Youth Leadership Training and Exchange Programs at the International Monetary Fund Aug.2015
•Member of Harbin Institute of Technology Robotic Team Aug.2014 - Jul.2016
•Excellent Design Award of 2016 Industrial Practice in Harbin Institute of Technology Aug.2016