

Rui Liu

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SUMMARY

- Skilled in the computer programming with Pandas, Numpy, Scikit-Learn and Flask of Python, MySQL, Java, C and C++.
- Interested in machine learning algorithms with academic experience in the application of regression, classification, deep learning and neural network implemented in Python and with tensorflow.

EDUCATION

Dalian University of Technology, China *09/2015-09/2019*

Bachelor of Science, Computer Science GPA: *87/100*

Coursework: machine learning, deep learning and neural network(coursera), data structure, probability theory, Engineering Analysis of Mathematics

Awards: The 1st Prize of The Chinese Mathematics Competitions of Liaoning province and the 3rd Prize of Nation(1%) *06/2016*

The 2nd Prize of Certification Authority Cup International Mathematical Contest in Modeling *06/2017*

ACADEMIC EXPERIENCES

IIP Lab, Chinese Academy of Science, research intern *01/2018-present*

- Proposed a general cross-domain recommendation framework via Bayesian neural network to incorporate auxiliary information, which can take advantage of both the hybrid recommendation methods and the cross-domain recommendation systems. Besides, introduced the uncertainty to all weights and conducted systematical experiments on real-world datasets which shows a great performance on cold start and sparsity problem.
- The paper was accepted to IEEE ICDM 2018.

Alibaba Tianchi Big Data: Ali Cloud Security Algorithms Challenge, team member *08/2017-09/2017*

- Conducted the combination of logistic regression and Gradient Boosting Decision Tree based on the paper, "Practical Lessons from Predicting Clicks on Ads at Facebook", and some ideas from Kaggle of Display Advertising Challenge to predict port scanning and blasting.
- Parsed the HTMLs of millions of websites and generated features by conducting word2vec on high frequency words; trained a SVM model to calculate the probability of the websites being malicious and ranked 19/959 in F1 score leader board.

Individual Learning and Social Learning in Complex Networks, team leader *03/2016-03/2017*

- Constructed experiment with fixed strategy of individual learning and social learning to analyze different conditions including heterogeneous and homogeneous population, impact of population dynamics and learning episode utilizing C and Matlab.
- Established an adaptive strategy based on reinforcement learning algorithms(mainly Q-learning) which enabled agents to dynamically choose between social and individual learning in order to facilitate norm emergence among agents. Formed a more efficient emergence of social norms.
- Published 2 papers indexed by EI in IEEE conferences.

Back-End Development of Imitated Quora Q&A Site Based on Flask Web, independent project *10/2016-11/2016*

- Built a back-end of the web application facilitated by Python framework Flask, and designed front-end based on Jinja2. Added some functions containing Mysql database, bootstrap template, password hash powered by werkzeug and so on.
- Deployed this system to the cloud and resolved domain name to server to allow external visit to the website.

PUBLICATION

Yu Chao, **Rui Liu**, and Yuliang Wang. "Social Learning in Networked Agent Societies." *IEEE International Conference on Agents (ICA)*,2016.

Yu Chao, Hongtao Lv, Sandip Sen, Jianye Hao, Fenghui Ren, **Rui Liu**. "An adaptive learning framework for efficient emergence of social norms." *Proceedings of the 2016 International Conference on Autonomous Agents & Multiagent Systems(AAMAS)*,2016.

Jia He, **Rui Liu**, Fuzhen Zhuang, Fen Lin, Cheng Niu, Qing He. "A General Cross-domain Recommendation Framework via Bayesian Neural Network." *IEEE International Conference on Data Mining(ICDM)*,2018.