Peng Zhou | **Associate Researcher**
Mail: Jeffery.p.Zhou@Gmail.com | Tel: +86-18217368212
Advertising Engine & Data Algorithm Center, Tencent, China

EDUCATION

2014.9∼2017.3 **Tongji University**, Major:Software Engineering,Degree:Master
2009.9∼2013.5 **Nanjing Tech University**, Major:Computer Science,Degree:Bachelor

RESEARCH EXPERIENCE & PROJECT

Behavior Cloning Based on End to End Learning(2018.10)

- Clone human driving behavior in a simple car simulator with an end to end approach.
- Collected a dataset including (a)middle mode and (b)recovery mode then balanced the dataset.
- Done data augmentation by horizontal flip, vertical flip and random shadow.
- Build network architecture based on the Nvidia's paper of end to end learning for self-driving car.
- Result: The agent managed to drive on both known and unseen tracks endlessly.

Topic Modeling on APIs of Source Code Repository(2017.3) – Graduation Thesis

- proposed a hierarchical topic modeling method for open source APIs - AHTM, which contains
- *a.Topic Mining:* analyzed the parameters of LDA in Gibbs sampling mode and the physical meaning of the important parameters in the LDA.
- *b.API topic Filtering:* regarded the words as nodes and the relations between them as links to build a WordNet; filtered the API topics based on the relational density called centric mean in networks.
- *c.API topic Organizing:* discussed the influence of different number of topics on abstract levels of the APIs, and proposed a similarity algorithms to organize the different levels of topics.
- finally discussed the validity of AHTM by using the popular repositories in the field of data visualization, such as D3.js.

Criminal Network Analysis Based on Mobile Call Logs(2016.8)

- suggested an analytical process with interactive strategies as a solution to analyse CNs constructed from the communication data which can be divided into three phases, namely, *a.network construction*: the generation of network structure,*b.metric design*: the core nodes and relations,*c.structure observation*: structures extraction in different levels.
- proposed interactive strategies to the analytical process, such as using various visualization layouts to configure the network, reinterpreting different measures from the social network domain to the CN domain, and controlling the community structure level with label supervision strategy.
- conducted a proof of concept study using mobile call logs.

PUBLICATIONS/CONFERENCE

Peng Zhou, Yan Liu, Mengjia Zhao and Xin Lou. "A Proof of Concept Study for Criminal Network Analysis with Interactive Strategies," *IJSEKE2017(International Journal of Software Engineering & Knowledge Engineering)* , May 2017.

Peng Zhou, Yan Liu, Mengjia Zhao and Xin Lou. "Criminal Network Analysis with Interactive Strategies: A Proof of Concept Study using Mobile Call Logs," *SEKE2016(The 28th International Conference on Software Engineering and Knowledge Engineering)*, July 2016.

JiTong Zhao, Yan Liu, and Peng Zhou. "Framing a Sustainable Architecture for Data Analytics Systems: An Exploratory Study," *IEEE Access2018, IF=3.557*, Sep 2018.

Huawei Liu, Peng Zhou and Yudi Tang. "Customizing Clothing Retrieval Based on Semantic Attributes and Learned Features" *MMM2017(The 23rd International Conference on Multimedia Modeling)*, Oct 2016. [Accepted but without attendence due to insufficient funding]

Mengjia Zhao, Yan Liu, and Peng Zhou. "Towards a Systematic Approach to Graph Data Modeling: Scenario-based Design and Experiences." *SEKE2016(The 28th International Conference on Software Engineering and Knowledge Engineering)*, July 2016.

SKILLS

Deep Learning
Convolutional Neural Network, Recurrent Neural Network, LSTM, Hyperparameter tuning, Regularization and Optimization. On-learning: GAN.
Imitation Learning
Behavior Cloning, Inverse Reinforcement Learning. On-learning: Practical Reinforcement Learning.
Natural Language Processing
One year with Text Mining Project about Text Classification on Memo Data Containing Abbreviations.
Topic Modeling: LSA, PLSA, LDA.
Basic tools: Python-Gensim, Python-NLTK, Scikit-learn.
Complex Network Analysis:
Fundamental about complex networks and algorithms for community detection.
Basic tools: Gephi, Python-Networkx, NEO4J.
Engineering Loving python (most commonly used) & Data Visualization and strong linux system programming skills.
Backend: Python-Django, PHP-Lavarel.
Frontend: html5, css3, js, bootstrap and semanticUI.
Big Data Toolkit: Hadoop, Apache-pig, Spark, Presto.

AWARDS & HONORS

The 1st Hornor (3/60), **The Outstanding Graduate** of Tongji University, 2017
National 2nd Prize (345/19065), China Postgraduate Mathematics Contest in Modeling, 2016
National Scholarship (0.2% Nationwide), **China National Scholarship**, 2016
National 2nd Prize (345/19065), 2016 Music Fashion Trend Prediction Competition, Alibaba, 2015
The Excellent Trainee, Microduino Smart Hardware Training Battalion, Microsoft, 2015
The Final Referee, First Tech Challenge(FTC) "Qualcomm Cup" Robots Contest, 2015
Top 5% applicant, **The Excellent Student** of Tongji University, 2015
Vice-President, Tongji University Graduate Entrepreneurs Club, 2016
Vice-President, The Operation Department of Venture Valley of Tongji University, 2016
Shanghai Site Member, Global Entrepreneurship Week Campus Center (GCC), 2015
Software Designer, China Certificate of Computer and Software Technology Proficiency, 2013
On-Learning: Practical Reinforcement Learning, National Research University-HSE, 2018.
On-Learning: CS294-112 Deep Reinforcement Learning, UC Berkeley, 2018.
DeepLearning.ai: Neural Networks and Deep Learning, 2018.
DeepLearning.ai: Improving Deep Neural Networks, 2018.
DeepLearning.ai: Structuring Machine Learning Projects, 2018.
DeepLearning.ai: Convolutional Neural Networks, 2018.
DeepLearning.ai: Sequence Models, 2018.
Coursera Certificate: Data Processing Using Python, NJU, 2016.
Coursera Certificate: Pattern Discovery in Data Mining, UIUC, 2015.
Coursera Certificate: Cluster Analysis in Data Mining, UIUC, 2015.

RESEARCH INTERESTS:

Robotics & Machine Learning, Deep Reinforcement Learning, Data Visualization and Data Mining