Jinyang Liu

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EDUCATION

Northeast Yucai School — **Shenyang, China**
Middle School Education — *Sep.2006- Jul. 2011*

Peking University — **Beijing, China**
Bachelor of Mathematics and Applied Mathematics （GPA 3.0/4） — *Sep.2011- Jul. 2016*

Peking University — **Beijing, China**
Master of Data Science (GPA 83.4/100) — *Sep.2016- Present*

RESEARCH INTERESTS

Machine Learning Theory and Applications

Deep Learning Methods

Natural Language Processing

ACADEMIC EXPERIENCE

Research and Practice of API Recommending Techniques in Mobile Application Software Programming ***2016***
Undergraduate Thesis

- Builds Models to predict and recommend classes and packages imported in java codes;
- Applies Apriori Algorithm, PageRank Algorithm and Artificial Neural Network to deal with the task.

Analysis of the Evolution of the UML metamodel ***Jan. 2017 to Aug. 2017***
Lab Research Project, participant

- The work of mine is modeling and calculation on the graph structure of UML packages;
- Supported by the National Natural Science Foundation of China (No. 61672046);
- Data analysis for the historical versions of UML (Unified Modeling Language);
- Provides insight into the constructive mechanism and future trends of UML, and potentially form the basis for eliciting improved or novel laws of UML evolution;
- Published on MODELSWARD 2018 Conference, Jan. 2018 in Portugal.

An Approach to Modeling Microservice Solutions ***Oct. 2017 to Mar. 2018***
Lab Research Project, participant

- Supported by the National Natural Science Foundation of China (No. 61672046);
- Presents an approach to modeling microservice solutions based on CBDI SAE metamodel for SOA 3;
- Discusses which modeling activities can output which models and how to build and describe the models, and prescribes the relations between the models.

Design of an API Recommendation System in Android Programming ***Dec. 2017 to Present***
Lab Research Project, leader

- Designs an API recommendation system in android programming, which makes recommendation of import information and method invocations in Android codes;
- Uses AST tools in Java to extract key features of codes, and uses several models on the data to generate recommendation results;
- Periodical achievement submitted to ICCEE 2018, and has been accepted. To be published in Oct. 2018.

Media Resource Metadata Extractor *2017*

Cooperation project with enterprise, participant

- Part of a synthetic Media Resource Online Platform;
- An online tool of transfer the information of media file in the database into unified metadata, and upload it onto cloud database;
- Focus on Video data, and can extract key frames from video;
- Written in Python.

Wind Power Big Data Prediction Problem *Nov. 2016 to Dec. 2016*

Final Coursework of Introduction to Data Science

- Task of wind speed and power prediction: given history weather data and power record of one wind power station, build a prediction model for future wind speed and power;
- Uses neural networks and gradient boosting method, build regression model of wind speed and wind power by weather data.

English Question-Answering System *Nov. 2016 to Dec. 2016*

Final Coursework of Computational Linguistics

- Build a system that can choose right answer from candidate answers basing on given labeled train data;
- Uses GloVe to vectorize language data;
- Tried SVM, LSTM and xgboost method to train models.

Stocking Selection Model Based on Deep Learning *May. 2017 to Jun. 2017*

Final Coursework of Deep Learning: Algorithms and Applications

- Use Deep Learning to predict stock price, and build a stock selection system;
- Mixed model of CNN and LSTM.

Named Entity Recognition in Chinese *May. 2018 to Jun. 2018*

Final Coursework of Advanced Natural Language Processing

- Design a model of NER(Named Entity Recognition) on Chinese language data;
- BiLSTM+CRF Model;
- High precision and recall rate on testing data.

SKILLS & AWARDS

Programming Language: C, C++, Java, Python

Software: MATLAB

Language: English (Fluent) TOEFL 106 (S22) GRE V153+Q170+AW3.0; Japanese (Basic); Chinese (Native)

Award for outstanding research work, Peking University, 2018.

Scholarship of May 4th, Peking University, 2018-2019.

PUBLICATIONS

***Analysis of the Evolution of the UML Metamodel*, Zhiyi Ma , Huihong He , Jinyang Liu and Xiao He, Proceedings of the 6th International Conference on Model-Driven Engineering and Software Development, P. 356 – 363, DOI:10.5220/0006571303560363**

Ma Z., Liu J., He X. (2019) An Approach to Modeling Microservice Solutions. In: Kim K., Baek N. (eds) Information Science and Applications 2018. ICISA 2018. Lecture Notes in Electrical Engineering, vol 514. Springer, Singapore

***Design of an API Recommendation System in Android Programming*, Jinyang Liu, Zhiyi Ma, ICCEE 2018.**