XIUZE ZHOU

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EDUCATION

Xiamen University **09/2013-06/2016**
School of Aerospace Engineering
M.Eng. in *Pattern Recognition and Intelligent Systems* GPA: 3.43/4.0
Awards: Principal Level Scholarship (10/2013)
Courses: Machine Learning, Design of Neural Networks, Digital Image Processing, Time Series Analysis, Pattern Recognition, Data Mining and Its Application, Artificial Intelligent: Theory and Application, Recommender System.

Zhejiang University of Science and Technology **09/2008-06/2012**
School of Automation and Electrical Engineering
B.Eng. in *Automation* GPA: 3.23/4.0
Awards: National Encouragement Scholarship (12/2011&12/2010); First-Class Scholarship (10/2011)
Courses: C Programming, Embedded Systems, Computer Network and Communication, Computer Control System.

PROFESSIONAL EXPERIENCE

Research Scientist, **AI Research Institute of Hithink RoyalFlush Information Network Co., Ltd.** **06/2019-Present**
- Research the newest machine learning algorithms and recommender system technology on stocks and hot news
- Apply neural network models to drug-target interaction prediction and evaluate the performance
- Publish papers and apply for relevant patents for the corporation
- Give lessons on Artificial Intelligence and Recommender Systems to the staff

Research Assistant, **Big Data Lab of Xiamen University** **06/2016-02/2019**
- Instructed two undergraduate and three graduate students in scientific research
- Tracked, studied, reproduced, and improved up-to-date machine learning methods
- Published papers on machine learning and recommender systems

Software Engineer, **Dragon SOFT** **09/2013-06/2014**
- Developed an electronic target practice system for security guards' shooting training
- Recorded the track of users' shooting behavior from sensors in a database
- Built a model analyzing users' shooting behavior concerning speed, acceleration and number of cylinders

Assistant Engineer, **Gold Electronic** **03/2012-07/2012**
- Cooperated with motor companies, such as Zotye and BYD, on battery management system development
- Developed a testing and analytics platform for performance of a lithium battery with C# (real-time data)
- Used CAN bus to collect working data of batteries and analyzed the data for balance power

RESEARCH PROJECTS

Campus Recommender System **03/2021- Present**
- Built user profiles based on the data crawled from websites
- Recommended information from within and outside the university based on faculty research, courses taught, and interests
- Recommended information, such as courses from MOOC, and publications from Arxiv, to students

Online Education Explainable Recommender System, NSFC **06/2018-12/2018**
- Summarized over 500,000 exercises and classified their knowledge points from all subjects
- Applied matrix factorization for online learning and recommendation of exercises based on interaction of users
- Added latent features learned by neural networks from exercises to online matrix factorization for better performance

Development of Memorizing Words APP **06/2017-02/2018**
- Extracted the records of memorizing words of over 100,000 users from a database
- Counted the pairs of error words with the co-occurrence rate to obtain a co-occurrence table
- Provided words, along with situation pictures, to enhance memory and showed co-occurrence words from a table

Analysis of Film Review from *Douban.com* **09/2016-03/2017**
- Crawled film reviews and ratings from websites
- Segmented words and cleaned and processed texts
- Added features learned by neural networks to matrix factorization to predict movie's ratings

Topics Analysis on Weibo **05/2015-02/2016**
- Crawled Weibo messages from websites
- Segmented words, cleaned and processed texts, converted the data for storage and analytics
- Built a topic model LDA by C++ and applied it to obtain topics of Weibo for discovering hot events

Email-Based User Relationship Analysis **10/2014-02/2015**
- Cleaned and processed the contents of over 100,000 emails to obtain message bodies
- Built an author-topic model with biterm pattern by C++
- Used model to identify relationships between users based on communication contents

RESEARCH

Current Work

- Knee Osteoarthritis Prediction
- Reinforcement Learning for Recommendation
- Federal Learning for Recommendation
- Remaining Useful Life Prediction of Lithium-Ion Batteries

Under Review

[1] M. Chen, and **X. Zhou***, "CoCNN: Co-occurrence CNN for Recommendation".
[2] D. Chen, S. Lu, and **X. Zhou***, "A Deep Learning Model for Remaining Useful Life Prediction of Lithium-Ion Batteries".
[3] M. Chen, and **X. Zhou***, "Autoencoders for Drug-Target Interaction Prediction".
[4] X. Wu, W. Zeng, F. Lin*, and **X. Zhou**, "NeuRank: Learning to Ranking with Neural Networks for Drug-Target Interaction Prediction".

Papers

[5] M. Chen, Yunhao Li, and **X. Zhou***, "CoNet: Co-occurrence Neural Networks for Recommendation", *Future Generation Computer Systems*, Nov. 2021, 124, pp. 308-314. (IF = 6.125)
[6] M. Chen, and **X. Zhou***, "DeepRank: Learning to Rank with Neural Networks for Recommendation", *Knowledge-Based Systems*, Dec. 2020, 209, pp. 106478. (IF = 5.921)
[7] K. Li, **X. Zhou**, F. Lin*, W. Zeng, and G. Alterovitz, "Deep Probabilistic Matrix Factorization Framework for Online Collaborative Filtering", *IEEE Access*, Mar. 2019, 7, pp. 56117-56128. (IF = 3.745)
[8] K. Li, **X. Zhou**, F. Lin*, W. Zeng, B. Wang, and G. Alterovitz, "Sparse Online Collaborative Filtering with Dynamic Regularization", *Information Sciences*, Dec. 2019, 505, pp. 535-548. (IF = 5.910)
[9] **X. Zhou**, W. Shu, F. Lin*, and B. Wang, "Confidence-Weighted Bias Model for Online Collaborative Filtering", *Applied Soft Computing*, Sep. 2018, 70, pp. 1042-1053. (IF = 5.472)
[10] **X. Zhou*** and S. Wu, "Rating LDA Model for Collaborative Filtering", *Knowledge-Based Systems*, Oct. 2016, 110, pp. 135-143. (IF = 5.921)
[11] F. Lin, **X. Zhou**, and W. Zeng*, "Sparse Online Learning for Collaborative Filtering", *International Journal of Computers Communications & Control*, Apr. 2016, 11 (2), pp. 248-258. (IF = 2.093)
[12] S. Lu, H. Chen, **X. Zhou**, B. Wang, H. Wang*, and Q. Hong, "Graph-Based Collaborative Filtering with MLP", *Mathematical Problems in Engineering*, Dec. 2018, 2018, pp. 1-10. (IF = 1.009)
[13] **X. Zhou**, F. Lin*, L. Yang, J. Nie, Q. Tan, W. Zeng, and N. Zhang, "Load Balancing Prediction Method of Cloud Storage based on Analytic Hierarchy Process and Hybrid Hierarchical Genetic Algorithm", *SpringerPlus*, Nov. 2016, 5 (1), pp. 1989-2012. (IF = 1.780)
[14] **X. Zhou*** and S. Wu, "The Biterm Author Topic in the Sentences Model for E-Mail Analysis", *IEICE Transactions on Information and Systems*, Aug. 2017, E100.D (8), pp. 1852-1859. (IF = 0.770)

Note: * indicates the corresponding author

ACADEMIC SERVICE

Reviewer

IEEE Access, IEEE Transactions on Industrial Informatics

COMPETITIONS AND AWARDS

The 2nd Prize in the National Advanced Mathematics Contest for Undergraduates (Zhejiang)	12/2011
The 2nd Prize in the Zhejiang Advanced Mathematics Contest for Undergraduates	04/2011
The 3rd Prize in the Zhejiang Advanced Mathematics Contest for Undergraduates	10/2009 & 04/2010
The 3rd Prize in the Zhejiang Physics Contest for Undergraduates	12/2009 & 12/2010
The 1st Prize in the Electronics Design Contests, ZUST	12/2010

ACTIVITIES

Teaching Assistant, **Xiamen University** **09/2013-01/2014**

- Guided freshmen in the subjects of Advanced Mathematics and Programming C and taught some learning skills

Assistant Mentor, **Zhejiang University of Science and Technology** **09/2010-06/2011**

- Led freshmen to adapt quickly to their new environment and helped them solve their study problems

Journalist, **Press Corps of Zhejiang University of Science and Technology** **12/2008-06/2011**

- Conducted face-to-face interviews, wrote news articles, which received positive audience responses

Founder and Editor in Chief, **Say Ourselves, E-magazine** **12/2009-08/2011**

- Created a monthly e-magazine about college life

COMPUTER SKILLS

Programming: C/C++, C#, Python, Java, Matlab,
Toolkits: TensorFlow, Pytorch, Sklearn, etc.
Database: MySQL, SQL Server