Zixiang Chen

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Reseach Interests

- Intelligent Systems: Software Engineering, Recommender Systems, Deep Learning
- Technology-enhanced Learning: Learning Analysis, Intelligent Tutoring Systems

Education

Shenzhen University (SZU) Shenzhen, China
M.S. in Software Engineering. Supervisor: Dr. Weike Pan September 2016 - June 2019

- **Main Courses:** Combinatorial Mathematics, Advanced Data Structures, Advanced Computer Architecture, Foundations of Software Theory, Data Warehouse and Data Mining, Signal Processing, Machine Learning.
- **Field:** Recommender Systems
- **Thesis:** *Research on RBM-based Collaborative Recommendation Algorithms*
- SZU's global ranking: 201-300th in Academic Ranking of World Universities 2020; 401–500th in the World University Rankings 2021; 601-650th in QS Global World Ranking.

Ludong University Yantai, China
B.S. in Software Engineering. GPA: 3.30 September 2012 - June 2016

- **Main Courses:** Advanced Mathematics, Linear Algebra, Probability Theory and Mathematical Statistics, Discrete Mathematics, High-level Language Programming, Data Structure, Algorithm Analysis and Design, Object-oriented Programming, Operating System, Computer Networks, Compilation Principle, Database System Principle, Java Open-source Frameworks, Software Engineering.
- **Dissertation:** *Design and Implementation of a Campus-Oriented Event Platform Based on Flask*

Work Experience

Teacher Shaoguan, China
Shaoguan Secondary Vocational School of Technology July 2020 - present

- **Teaching Courses:** Visual Basic Programming, 3D Modeling
- Also take a part-time job as a network maintainer in the Information Centre.

Lecturer Foshan, China
Neusoft Institute Guangdong July 2019 - June 2020

- **Teaching Courses:** Basics of Programming, Data Structures and Algorithms
- Our teaching course *Data Structures and Algorithms* won the first prize of the Excellent Online Teaching Cases During the COVID-19, which is launched by the Guidance Committee of Courses for Undergraduate Higher Schools in Guangdong Province.

Software Developer(Internship) Shenzhen, China
Lumi United Technology co., LTD. May 2018 - August 2018

- Programed using Selenium to apply automated testing for an industrial cloud platform.

Publications

- Jing Lin, Weike Pan, Lin Li, Zixiang Chen and Zhong Ming. Matrix Factorization with Heterogeneous Multiclass Preference Context [J]. Neurocomputing* (0925-2312), 390:148-157, 21 May 2020.

* Impact Factor: 5.190

- Zixiang Chen, Wanqi Ma, Wei Dai, Weike Pan and Zhong Ming. Conditional Restricted Boltzmann Machine for Item Recommendation [J]. Neurocomputing (0925-2312), 385:269-277, 14 April 2020.
- Wei Cai, Weike Pan, Jixiong Liu, Zixiang Chen and Zhong Ming. k-Reciprocal Nearest Neighbors Algorithm for One-Class Collaborative Filtering [J]. Neurocomputing (0925-2312), 381:207-216, 14 March 2020.
- Yunfeng Huang, Zixiang Chen, Lin Li, Weike Pan, Zhiguang Shan and Zhong Ming. k-CoFi: Modeling k-Granularity Preference Context in Collaborative Filtering [C]. In: Proceedings of International Conference on Smart Computing and Communication (SmartCom 2017), Shenzhen, China, pages 406-416, December 10th-12th, 2017. EI.

Research

Recommendation Algorithms with Internal Context SZU

Investigator(part-time) March 2019 - January 2020

- **Summary:** Pubic more emphasize privacy protection. In this project, we discover new recommendation algorithms with internal context only, which avoids using extra information about users.
- **My Contribution:** Investigation into deep learning methods that met the problem definition.

Item Recommendation with Explicit Feedback SZU

Primary Investigator September 2018 - April 2020

- **Summary:** The item recommendation more fits the tendency, and the explicit feedback contains more abundant information, although they rarely work together. The project aims to bridge this gap.
- **My Contribution:** Algorithm conceptualization and design, software development, experiment design, statistical analysis.

On Neighborhood Structures for One-Class Collaborative Filtering SZU

Investigator April 2018 - May 2019

- **Summary:** Neighbour relationships beneath the users' rating behaviours are the key conception for mining users' authentic preferences. This project focuses on filtering strong neighbourhood structures and devising methods for better recommendations.
- **My Contribution:** Investigation into deep learning methods for One-Class Collaborative Filtering.

Modeling Granular Preference Context in Collaborative Filtering SZU

Primary Co-investigator March 2017 - January 2018

- **Summary:** In Collaborative Filtering, users' ratings on items are the primary data source. Those categorical scores reflect users' preferences, whose contexts generally come out with uncertainty and vagueness. How can we exploit this feature for a better recommender system?

Competition: IJCAI-17 Customer Flow Forecasts on Koubei.com SZU

Participant January 2017 - March 2017

- **Summary:** With the data - customers' browsing and payment history as well as the relevant information of shops - provided by the organizers, participants are expected to forecast the customer flow per day during the next 14 days for each shop, which is a key index to a successful business.
- **My Contribution:** Feature engineering.

Skills

- **Programming:** Java, Python, C/C++
- **Web:** HTML/CSS, JavaScript, Flask
- **Frameworks:** LibRec, TensorFlow, XGBoost, Selenium
- **Tools:** SQL, Git, LaTeX
- **Certifates:** Senior High School Teacher Qualification, Microsoft Office Specialist Master
- **Languages:** Chinese and Mandarin, English(IELTS 6.5), Cantonese, Hakka

Scholarships and Awards

- Third-class National Scholarship 2016 - 2019
- School-level First-class Outstanding Student Scholarship 2015
- Second Prize of Shandong Division in Lan Qiao Cup National Programming Competition 2015

References

Dr. Weike Pan

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- **Email:** panweike@szu.edu.cn
- **Webpage:** https://sites.google.com/site/weikep/

Dr. Zhong Ming

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