

Roger Zhe Li

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Education

Sep.2017-current PhD, Computer Science, Delft University of Technology, the Netherlands
Supervisors: Prof. Alan Hanjalic, Dr. Julián Urbano
Project: Debiasing Recommender Systems Using Adversarial Methods

Sep.2014-Jan.2017 Master of Science (cum laude), Information and Communication Engineering, Tianjin University, China
Supervisor: Dr. Wei Lu
Thesis: Data Analysis in Breast Cancer Computer-aided Diagnosis on Images

Aug.2010-Jun.2014 Bachelor of Engineering, Information and Communication Engineering, Zhejiang University, China
Supervisor: Dr. Huiming Tang, Prof. Huimin Yu
Thesis: The Recognition of the Serial Number in Paper Currency

Selected Publications (as the *de facto* first author)

You may also find my full publication list at https://scholar.google.com/citations?user=_GDQBHcAAAAJ&hl=en. An author version of the original papers are available at <http://zhe-li.me/publications/>

- 2021** **Roger Zhe Li**, Julián Urbano, and Alan Hanjalic. 2021. New Insights into Metric Optimization for Ranking-based Recommendation. In Proceedings of the 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '21). Association for Computing Machinery, New York, NY, USA, 932–941.
- 2021** **Roger Zhe Li**, Julián Urbano, and Alan Hanjalic. 2021. Leave No User Behind: Towards Improving the Utility of Recommender Systems for Non-mainstream Users. In Proceedings of the 14th ACM International Conference on Web Search and Data Mining (WSDM '21). Association for Computing Machinery, New York, NY, USA, 103–111.
- 2018** **Li Z.** Towards the next generation of multi-criteria recommender systems[C]//Proceedings of the 12th ACM Conference on Recommender Systems. ACM, 2018: 553-557.
- 2017** Lu, W., **Li, Z.** and Chu, J.. Adaptive Ensemble Undersampling-Boost: A novel learning framework for imbalanced data. Journal of Systems and Software, 132, pp.272-282.
- 2017** Lu, W., **Li, Z.** and Chu, J.. A novel computer-aided diagnosis system for breast MRI based on feature selection and ensemble learning. Computers in biology and medicine, 83, pp.157-165.
- 2016** **Li. Z.**, Lu, W., Min, H. and Chu, J.. Application of machine learning algorithms in breast tumor detection. Computer Engineering and Science, 11, pp.2303-2309 (in Chinese).

Research experience

Sep.2017 - Delft University of Technology, the Netherlands

current *Working on debiasing recommender systems.*

- Investigated on the choice of the metric to optimize for in ranking-aware recommender systems; published as a full paper at SIGIR'21.
- Proposed NAECE, an AutoEncoder-based adversarial learning model for mitigating the mainstreamness bias in rating-based recommender systems; published as a full paper at WSDM'21.
- Working on generalizing NAECE to the ranking paradigm and incorporating more information sources; expected to finish soon.

Sep.2014 - Tianjin University, Tianjin, China

Jan. 2017 *Computer Aided Detection & Diagnosis in breast cancer*

- Made comparisons between different classification algorithms on public breast cancer datasets.
- Proposed a novel and effective breast mass computer-aided diagnosis system.
- Proposed a novel algorithm to address the data imbalance problem.
- Proposed a framework for feature extraction and selection based on Relief algorithm and the subspace method.

Jun.2016 - Institute of Automation, Chinese Academy of Sciences, Beijing, China

Dec. 2016 *Data mining of breast cancer medical records*

- Analyzed the data and found the abnormal items.
- Did a statistical analysis to the raw data.
- Did clustering and association rules mining based on K-means and Apriori, respectively.
- Developed a similar patient recommender system based on KNN.

Nov.2013 - Zhejiang University, Hangzhou, China

Jun. 2014 *Currency number recognition*

- Made the currency number segmentation based on accumulated projection.
- Designed a kind of new feature to describe the characteristics of one specific number.
- Made the classification based on template matching.

Teaching experience

Sept 2018 - Delft University of Technology, the Netherlands

Co-supervisor in Master thesis "Video captioning for visual impaired people"

Student: Fenglu Xu

Feb 2018 - Delft University of Technology, the Netherlands

Apr 2018 *Supervisor in the Bachelor Seminar project "RNN-based recommender systems"*

Students: Kaan Yilmaz, Jelle Vos, Tim Rietveld

Internship experience

Mar 2017 - SenseTime Group Ltd., Beijing, China

Jul 2017 *R&D intern in data mining, computational advertising, and recommender systems*

Jun 2016 - National Laboratory of Pattern Recognition, Institute of Automation, China Academy of Sciences, China

Dec 2016 *R&D intern in machine learning and data mining focusing on association rule mining*

Mar 2016 - Toshiba Medical Systems, Beijing, China

Sep 2016 *Research intern in machine learning and medical imaging focusing on object detection*

Professional Skills

- **Programming languages:** C, Matlab, Python, Verilog HDL, \LaTeX , JavaScript, Scala.
- **Research:** recommender systems, machine learning, deep learning, PyTorch, computer-aided diagnosis, pattern recognition, data mining, medical informatics, digital image processing.
- **Basic knowledge:** natural language processing, computer vision, social computing, computer networks.

Honors and Awards

- Travel Grant, RecSys 2018, WSDM 2021, SIGIR 2021
- China Scholarship Council four years scholarship, China, 2017-2021
- Cum Laude graduates, Tianjin University, 2017
- First scholarship for outstanding Students, Tianjin University, 2016
- Outstanding thesis for undergraduates, Zhejiang University, 2014

Academic Service

- Student Volunteer, RecSys'18, RecSys'21
- Reviewer, IEEE Systems Journal
- Chinese subtitles translator for MOOCs, Coursera, 2016-now
- Translator & reviewer, Recommender Systems Handbook (2nd Edition, Chinese version).

Referees

Name Prof. Alan Hanjalic
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