



# RUI LIU

## Curriculum Vitae

### Personal Information

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### Education

2019–2022 **The Chinese University of Hong Kong**, Hong Kong  
Ph.D. at MultiMedia Lab, advised by *Prof. Hongsheng Li* and *Xiaogang Wang*  
2014–2018 **University of Electronic Science and Technology of China**, Chengdu, China  
B.E., major in Computer Science at Yingcai **Honors** College (for top **10%** students)

### Publications

- CVPR 2019 **Conditional Adversarial Generative Flow for Controllable Image Synthesis**  
**Rui Liu**, Yu Liu, Xinyu Gong, Xiaogang Wang, Hongsheng Li.  
CAGlow is to learn a mapping from conditions to images by using an irreversible encoder to map conditions into the latent space of reversible flow-based models, which makes use of its reversibility to perform controllable image synthesis.
- IJCAI 2018 **Discrete Factorization Machines for Fast Feature-based Recommendation**  
Han Liu, Xiangnan He, Fuli Feng, Liqiang Nie, **Rui Liu**, Hanwang Zhang.  
Discrete Factorization Machine (DFM) binarizes the real-valued model parameters of every feature embedding into binary codes, and thus supports efficient storage and fast user-item score computation.
- KDD 2017 **Discrete Content-aware Matrix Factorization (Oral, 8.6%)**  
Defu Lian, **Rui Liu**, Yong Ge, Kai Zheng, Xing Xie, Longbing Cao.  
Propose DCMF to hash users and items with content information in both regression and classification tasks and develop an efficient discrete optimization algorithm for tackling discretized constraints as well as interaction regularization.

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*The Chinese University of Hong Kong*

PCM 2017 **Unsupervised Cross-modal Hashing with Soft Constraint**

Yuxuan Zhou, Yaoxian Li, **Rui Liu**, Lingyun Hao, Yuanliang Sun.

Propose Soft Constraint Hashing(SCH), using a special soft constraint term defined as an "information tunnel" to convey information from one approach to another.

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## Talks & Oral Presentations

Aug 2017 **Discrete Content-aware Matrix Factorization**

Main conference on KDD 2017, Halifax, Canada

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## Honors & Awards

- 2018 **Outstanding Graduates** of UESTC (top 2%)
- 2018 **Outstanding Final Year Project** of UESTC (top 2%)
- 2017 **First-class Certificate** for Comprehensive Quality of College Students in Sichuan
- 2017 **Honorable Mention** in Mathematical Contest in Modeling(MCM)
- 2016 **Lixin Tang Scholarship** (60 of overall undergrads and postgrads in UESTC)
- 2016 **The second prize** in China College Students' Entrepreneurship Competition
- 2015 **The third prize** in National College Mathematics Competition
- 2015 **7323 Liren Scholarship** (top 40 undergraduates in UESTC)

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## Internship & Working Experience

- Sep 2018 - Present Research Assistant, advised by *Prof. Hongsheng Li* and *Xiaogang Wang*. Department of Electronic Engineering, The Chinese University of Hong Kong.  
Research on **Computer Vision** and **Deep Learning**. Improve generative models.
- March 2018 - Aug 2018 Research Intern, mentored by *Yucong Zhou* and *Junjie Yan*. Face Recognition Group, SenseTime Group Ltd.  
Research on **Face Recognition**. Improve the performance of state-of-the-art face recognition algorithms based on dataset and networks with large scale.
- Sep 2017 - Feb 2018 Research Intern, advised by *Prof. Sinno Jialin Pan*. School of Computer Science and Engineering, Nanyang Technological University, Singapore.  
Research on **Deep Learning** and **Recommender System**. Design novel deep neural networks for recommender system.
- March 2016 - Aug 2017 Research Assistant, advised by *Prof. Defu Lian*. School of Computer Science and Engineering, UESTC.  
Research on **Recommender System**. Improving quality and efficiency of recommendation system, apply matrix factorization and hashing methods.

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## Skills

- Programming C/C++, Matlab, Python, SQL, VHDL, L<sup>A</sup>T<sub>E</sub>X
- Frameworks Tensorflow, Keras, PyTorch
- Software Matlab, Mathematica, MathCAD, SPSS, SQL Server, Xilinx ISE, Multisim

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