Bowen Xu

Research Scientist (Post-Doc)

School of Computing and Information Systems   bowenxu.2017@phdcs.smu.edu.sg

Singapore Management University   https://www.bowenxu.me

Research Interests

- ✓ Mining Software Repository
- ■ Program Comprehension and Analysis
- ★ Empirical Software Engineering

Research Works

Google Scholar: `shorturl.at/hzBC5`

⇒ **Conference Papers**

SANER'22 (CCF-B)
[C11] ■ Jieke Shi, Zhou Yang, Junda He, **Bowen Xu (*Corresponding Author*)** and David Lo. "Can Identifier Splitting Improve Open-Vocabulary Language Model of Code?". *29th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2022).*
Accepted as a ERA track Paper.

SANER'22 (CCF-B)
[C10] ✓ Chengran Yang, **Bowen Xu (*Corresponding Author*)**, Junaed Younus Khan, Gias Uddin, Donggyun Han, Zhou Yang and David Lo. "Aspect-Based API Review Classification: How Far Can Pre-Trained Transformer Model Go?". *29th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2022).*

IC-SME'20 (CCF-B)
[C9] ✓ Ting Zhang, **Bowen Xu (*Corresponding Author*)**, Ferdian Thung, Stefanus Agus Haryono, David Lo, Lingxiao Jiang. "Sentiment Analysis for Software Engineering: How Far Can Pre-trained Transformer Models Go?". *36th IEEE International Conference on Software Maintenance and Evolution (ICSME 2020).*

PAKDD'19 (CCF-C)
[C8] ■ Heng-Yi Li, Shu-Ting Shi, Ferdian Thung, Xuan Huo, **Bowen Xu**, Ming Li, and David Lo. "DeepReview: Automatic Code Review using Deep Multi-Instance Learning". *The 23rd Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2019).*

ESEM'18 (CCF-B)
[C7] ✓ **Bowen Xu**, Amirreza Shirani, David Lo and Mohammad Amin Alipour. "Prediction of Relatedness in Stack Overflow: Deep Learning vs. SVM - A Reproducibility Study". *12th International Symposium on Empirical Software Engineering and Measurement (ESEM 2018).* **Highly Commended Full Paper Award**

ASE'17 (CCF-A)
[C6] ✓ **Bowen Xu**, Zhenchang Xing, Xin Xia, David Lo. "AnswerBot - Automated Generation of Answer Summary to Developers' Technical Questions". *32nd IEEE/ACM International Conference on Automated Software Engineering (ASE 2017).*

ASE'16 (CCF-A)
[C5] ✓ **Bowen Xu**, Deheng Ye, Zhenchang Xing, Xin Xia, Guibin Chen, Shanping Li. "Predicting Semantically Linkable Knowledge in Developer Online Forums via Convolutional Neural Network". *31st IEEE/ACM International Conference on Automated Software Engineering (ASE 2016).*

ASE'16 **(CCF-A)**	[C4] ✓ Guibin Chen, Chunyang Chen, Zhenchang Xing, **Bowen Xu**. "Learning Dual-Language Vector Space for Domain-specific Cross-Lingual Question Retrieval". *31st IEEE/ACM International Conference on Automated Software Engineering (ASE 2016).*
MSR'16 **(CCF-C)**	[C3] ✓ **Bowen Xu**, Zhenchang Xing, Xin Xia, David Lo, Qingye Wang, Shanping Li. "Domain-Specific Cross-Language Relevant Question Retrieval". 13th International Conference on Mining Software Repositories (MSR 2016). ***Invited to Empirical Software Engineering Journal***
ICECCS'15 **(CCF-C)**	[C2] ✓ Yun Zhang, David Lo, Xin Xia, **Bowen Xu**, Jianling Sun, Shanping Li. "Combining Software Metrics and Text Features for Vulnerable File Prediction". 20th International Conference on Engineering of Complex Computer Systems (ICECCS 2015).
APSEC'15 **(CCF-C)**	[C1] ✓ **Bowen Xu**, David Lo, Xin Xia, Ashish Sureka, Shanping Li. "EFSPredictor: Predicting Configuration Bugs With Ensemble Feature Selection". 22th Asia-Pacific Software Engineering Conference (APSEC 2015).

⇒ **Journal Papers**

TSE'21 **(CCF-A)**	[J3] ✓ **Bowen Xu**, HOANG Van Duc Thong, Abhishek SHARMA, Xin Xia, and David Lo. "Post2Vec: Learning Distributed Representations of Stack Overflow Posts". IEEE Transactions on Software Engineering (TSE).
EMSE'20 **(CCF-B)**	[J2] ★ ■ **Bowen Xu**, Le An, Ferdian Thung, Foutse Khomh, David Lo. "Why Reinventing the Wheels? An Empirical Study on Library Reuse and Re-implementation". Empirical Software Engineering (EMSE). ***Presented during ICSE 2020 as part of the Journal First Paper Track***
EMSE'17 **(CCF-B)**	[J1] ✓ **Bowen Xu**, Zhenchang Xing, Xin Xia, David Lo, Shanping Li. "Domain-Specific Cross-Language Relevant Question Retrieval". Empirical Software Engineering (EMSE).

⇒ **Tool Demo Papers**

ESEC/FSE'19 **(CCF-A)**	[T2] ✓ Liang Cai, Haoye Wang, **Bowen Xu**, Qiao Huang, Xin Xia, David Lo, Zhenchang Xing. "AnswerBot: An Answer Summary Generation Tool Based on Stack Overflow". The 27th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2019).
ESEC/FSE'17 **(CCF-A)**	[T1] ✓ **Bowen Xu**, Zhenchang Xing, Xin Xia, David Lo. "XSearch: A DomainSpecific Cross-Language Relevant Question Retrieval Tool". 11th joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering.

⇒ **Workshop Paper**

AAAI'19 **RCQA**	[W1] ✓ ★ Amirreza Shirani, **Bowen Xu**, David Lo, Thamar Solorio and Mohammad Amin Alipour. "Question Relatedness on Stack Overflow: The Task, Dataset, and Corpus-inspired Model". AAAI 2019 Reasoning and Complex QA Workshop.

⇒ **Under Review Work**

TSE'22 **(CCF-A)**	[U1] ★ ■ **Bowen Xu**, Hongjin Kang, Jiajun Jiang, David Lo. "Example-Based Program Transformation For Bug Fixing: How Far Are We?". IEEE Transactions on Software Engineering (TSE).

Education

2017-2021	**Ph.D Candidate** in School of Computing and Information Systems, Singapore Management University, Singapore Supervised by Prof. David Lo (IEEE Fellow, ACM Distinguished Member (Scientist))
2014-2017	**Master Degree** in School of Software Technology, Zhejiang University, China Supervised by Prof. Shanping Li and Prof. Xin Xia (Top 40 Young Researchers in Australia)
2010-2014	**Bachelor Degree** in College of Computer Science and Technology, Hunan City University, China

Working Experience

August - Present	**Research Scientist (Post-Doc)** in Software Analytics Research Group, Singapore Management University, Singapore Work with Prof. David Lo
May - July, 2017	**Research Associate** in Software Analytics Research Group, Singapore Management University, Singapore Work with Prof. David Lo
Feb - July, 2016	**Research Assistant** in Software Engineering Lab, Nanyang Technological University, Singapore Work with Prof. Zhenchang Xing

Professional Services

MSR'22	**Program Committee** for Data and Tool Showcase Track, The 2022 Mining Software Repositories Conference (CCF-C).
TOIS'20	**Journal Referee** for ACM Transactions on Information Systems (CCF-A).
JSS'20	**Journal Referee** for Journal of Systems and Software (CCF-C).

Teaching

2020	Teaching Assistant, Singapore Management University, IS706 - Software Mining and Analysis **Students' Feedback**: https://tinyurl.com/1t9xklsh
2019	Graduate Instructor Certification, Singapore Management University, Singapore.

Certifications, honors & awards

2020	Dean's List (top3%), Singapore Management University, Singapore.
2020	Presidential Doctoral Fellowship (top3%), Singapore Management University, Singapore.
2017	Excellent Graduate of Zhejiang Province, Ministry of Education of the People's Republic of Zhejiang Province (top3%), China.
2014	Scholarship of State Street (top5%), State Street Corp, U.S.A.
2012	National Scholarship (top3%), Ministry of Education of the People's Republic of China, China.