

Zhenpeng CHEN

Research Fellow

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Research Interests

Software analytics: analyzing data in software life cycle to help improve user experience, software quality, and development productivity

Experience

- **University College London, London, UK** 09/2021 – present
Research Fellow in Department of Computer Science
Supervisor: Prof. *Mark Harman* and Prof. *Federica Sarro*
- **Peking University, Beijing, China** 09/2018 – 07/2021
Ph.D. in Computer Software and Theory
Advisor: Prof. *Hong Mei*
- **Peking University, Beijing, China** 09/2016 – 08/2018
M.S. in Computer Software and Theory
Advisor: Prof. *Xuanzhe Liu*
- **Peking University, Beijing, China** 09/2012 – 07/2016
B.S. in Computer Science, B.A. in Economics (dual degree)

Refereed Publications

- [1] **Zhenpeng Chen**, Jie M. Zhang, Federica Sarro, Mark Harman. MAAT: A Novel Ensemble Approach to Addressing Fairness and Performance Bugs for Machine Learning Software. In *Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2022)*, accepted to appear, November 14-18, 2022, Singapore.
- [2] Xuan Lu, Wei Ai, **Zhenpeng Chen**, Yanbin Cao, Qiaozhu Mei. Emojis Predict Dropouts of Remote Workers: An Empirical Study of Emoji Usage on GitHub. In *PLOS ONE (PONE 2022)*, 17(1): e0261262, 2022.
- [3] Jinfeng Wen, Yi Liu, **Zhenpeng Chen**, Junkai Chen, Yun Ma. Characterizing Commodity Serverless Computing Platforms. In *Journal of Software: Evolution and Process (JSEP 2021)*, <https://doi.org/10.1002/smr.2394>, 2021. (Selected for SANER 2022 journal-first presentation)
- [4] Chengxu Yang, Yuanchun Li, Mengwei Xu, **Zhenpeng Chen**, Yunxin Liu, Gang Huang, Xuanzhe Liu. TaintStream: Fine-grained Taint Tracking for Big Data Platforms through Dynamic Code Translation. In *Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2021)*, pp.416-428, August 23-27, 2021, Athens, Greece.
- [5] Jinfeng Wen, **Zhenpeng Chen**, Yi Liu, Yiling Lou, Yun Ma, Gang Huang, Xin Jin, Xuanzhe Liu. An Empirical Study on Challenges of Application Development in Serverless Computing. In *Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2021)*, August 23-27, 2021, Athens, Greece.

- [6] **Zhenpeng Chen**, Huihan Yao, Yiling Lou, Yanbin Cao, Yuanqiang Liu, Haoyu Wang, Xuanzhe Liu. An Empirical Study on Deployment Faults of Deep Learning Based Mobile Applications. In *Proceedings of the 43rd International Conference on Software Engineering (ICSE 2021)*, pp.674-685, May 23-29, 2021, Madrid, Spain.
- [7] Chengxu Yang, Qipeng Wang, Mengwei Xu, **Zhenpeng Chen**, Kaigui Bian, Yunxin Liu, Xuanzhe Liu. Characterizing Impacts of Heterogeneity in Federated Learning upon Large-Scale Smartphone Data. In *Proceedings of the 2021 World Wide Web Conference (WWW 2021)*, accepted to appear, April 19-23, 2021, Ljubljana, Slovenia.
- [8] **Zhenpeng Chen**, Yanbin Cao, Huihan Yao, Xuan Lu, Xin Peng, Hong Mei, Xuanzhe Liu. Emoji-Powered Sentiment and Emotion Detection from Software Developers' Communication Data. In *ACM Transactions on Software Engineering and Methodology (TOSEM 2021)*, 30(2): 18:1-18:48, 2021.
- [9] **Zhenpeng Chen**, Yanbin Cao, Yuanqiang Liu, Haoyu Wang, Tao Xie, Xuanzhe Liu. A Comprehensive Study on Challenges in Deploying Deep Learning Based Software. In *Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2020)*, pp.750-762, November 8-13, 2020, Sacramento, USA.
- [10] Yiling Lou, **Zhenpeng Chen**, Yanbin Cao, Dan Hao, Lu Zhang. Understanding Build Issue Resolution in Practice: Symptoms and Fix Patterns. In *Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2020)*, pp.617-628, November 8-13, 2020, Sacramento, USA.
- [11] **Zhenpeng Chen**, Sheng Shen, Ziniu Hu, Xuan Lu, Qiaozhu Mei, Xuanzhe Liu. Emoji-Powered Representation Learning for Cross-Lingual Sentiment Classification (Extended Abstract). In *Proceedings of the The Twenty-Ninth International Joint Conference on Artificial Intelligence (IJCAI 2020)*, pp.4701-4705, July 11-17, 2020, Yokohama, Japan. (**Invited paper**)
- [12] Chen Qian, Fuli Feng, Lijie Wen, **Zhenpeng Chen**, Li Lin, Yanan Zheng, Tat-Seng Chua. Solving Sequential Text Classification as Board-Game Playing. In *Proceedings of the Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI 2020)*, pp.8640-8648, February 7-12, 2020, New York, USA.
- [13] **Zhenpeng Chen**, Yanbin Cao, Xuan Lu, Qiaozhu Mei, Xuanzhe Liu. SentiMoji: An Emoji-Powered Learning Approach for Sentiment Analysis in Software Engineering. In *Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2019)*, pp.841-852, August 26-30, 2019, Tallinn, Estonia.
- [14] **Zhenpeng Chen**, Sheng Shen, Ziniu Hu, Xuan Lu, Qiaozhu Mei, Xuanzhe Liu. Emoji-Powered Representation Learning for Cross-Lingual Sentiment Classification. In *Proceedings of the 2019 World Wide Web Conference (WWW 2019)*, pp.251-262, May 13-17, 2019, San Francisco, USA. **Best Full Paper Award (First WWW Best Paper from China)**
- [15] **Zhenpeng Chen**, Xuan Lu, Wei Ai, Huoran Li, Qiaozhu Mei, Xuanzhe Liu. Through a Gender Lens: Learning Usage Patterns of Emojis from Large-Scale Android Users. In *Proceedings of the 2018 World Wide Web Conference (WWW 2018)*, pp.763-772, April 23-27, 2018, Lyon, France.
- [16] Xuan Lu, **Zhenpeng Chen**, Xuanzhe Liu, Huoran Li, Tao Xie, Qiaozhu Mei. PRADO: Predicting App Adoption by Learning the Correlation between Developer-Controllable Properties and User Behaviors. In *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (UbiComp 2017)*, 1(3):79:1-79:30, September 11-15, 2017, MAUI, USA.

Teaching Experience

09/2017-07/2020	Undergraduate student instructor (for 60 undergraduate students), EECS, Peking University
Spring 2020	Teaching assistant, Scientific Writing, Peking University
Fall 2019	Teaching assistant, Foundations of Computer Application, Peking University
Spring 2019	Teaching assistant, Foundations of Computer Application, Peking University
Fall 2018	Teaching assistant, Foundations of Computer Application, Peking University
Spring 2018	Teaching assistant, Data Structure and Algorithm, Peking University
Fall 2017	Teaching assistant, Foundations of Computer Application, Peking University
Spring 2017	Teaching assistant, Data Structure and Algorithm, Peking University
Fall 2016	Teaching assistant, Foundations of Computer Application, Peking University

Academic Services

Journal reviewer	Journal of Systems and Software (JSS) ACM Transactions on the Web (TWEB) ACM Transactions on Internet Technology (TOIT) IEEE Transactions on Services Computing (TSC) Elsevier Neurocomputing (Neurocomputing) Artificial Intelligence Review
PC member	ICSE 2022, SEIP Track ISSRE 2022, Research Track ESEC/FSE 2022, Industry Track ASE 2022, Tool Demonstrations Track Emoji@NAACL 2022 ESEC/FSE 2021, Industry Track Emoji@ICWSM 2021 SEmotion@ICSE 2021 MSR 2021, Shadow PC IEEE EDGE 2020
Co-reviewer	2022: ICSE, ESEC/FSE 2021: ICSE, WWW, SIGIR 2020: WWW, SIGIR, KDD, CIKM, ICSE-SEIP 2019: WWW, SIGIR, KDD, CIKM 2018: WWW, KDD, CIKM 2017: KDD, CIKM

Honors and Awards

2021	Outstanding Doctoral Dissertation Award, Peking University (Sole winner in Computer Software and Theory)
2021	Outstanding Graduate of Beijing, China
2021	Outstanding Graduate, Peking University
2020	May 4th Medal, highest honor for students at Peking University (10 recipients every 2 years)
2020	Person of the Year 2020, Peking University (10 recipients every years)
2020	National Scholarship, Chinese Ministry of Education
2020	Merit Student Pacesetter, Peking University
2020	President Scholarship, Peking University
2020	Tang Lixin Scholarship, Peking University
2019	Microsoft Research Asia Fellowship, Microsoft (12 recipients from the Asia-Pacific region)
2019	Best Full Paper Award, WWW 2019 (First WWW Best Paper from China)

2019 National Scholarship, **Chinese Ministry of Education**
2019 President Scholarship, Peking University
2019 Tang Lixin Scholarship, Peking University
2019 Exceptional Award for Academic Innovation, Peking University
2019 Top-ten Research Excellence Award, EECS, Peking University
2019 Merit Student, Peking University
2018 CETC The 14th Research Institute Glarun Scholarship, Peking University
2018 Exceptional Award for Academic Innovation, Peking University
2018 Merit Student Pacesetter, Peking University
2018 President Scholarship, Peking University
2017 National Scholarship, **Chinese Ministry of Education**
2017 Merit Student, Peking University
2016 Outstanding Graduation Thesis, EECS, Peking University
2015 May 4th Scholarship, Peking University
2015 Award for Scientific Research, Peking University
2014 Award for Learning Excellence, Peking University