

# Zhenpeng CHEN

Research Fellow

Homepage: <https://chenzhenpeng18.github.io>

Department of Computer Science

University College London

✉ [zp.chen@ucl.ac.uk](mailto:zp.chen@ucl.ac.uk)

Engineering Front Building 3.09

Gower Street

London WC1E 6BT, UK

---

## Research Interests

Software Engineering for AI, AI for Software Engineering, Data Mining, Web

---

## 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] Chengxu Yang, Mengwei Xu, Qipeng Wang, **Zhenpeng Chen**, Kang Huang, Yun Ma, Kaigui Bian, Gang Huang, Yunxin Liu, Xin Jin, Xuanzhe Liu. FLASH: Heterogeneity-aware Federated Learning at Scale. In *IEEE Transactions on Mobile Computing (TMC 2022)*, accepted to appear.
- [2] Feng Li, Yiling Lou, Xin Tan, **Zhenpeng Chen**, Jinhao Dong, Yang Li, Xuanzhi Wang, Dan Hao, Lu Zhang. What Can We Learn from Quality Assurance Badges in Open-Source Software?. In *Science China Information Sciences (SCIS 2022)*, accepted to appear.
- [3] **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.
- [4] 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.
- [5] 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)

- [6] 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.
- [7] 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.
- [8] **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.
- [9] 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.
- [10] **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.
- [11] **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.
- [12] 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.
- [13] **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**)
- [14] 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.
- [15] **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.

- [16] **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)**
- [17] **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.
- [18] 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.

---

## Academic Services

Journal reviewer	<b>Distinguished Reviewer</b> of ACM Transactions on Software Engineering and Methodology (TOSEM) <b>Distinguished Reviewer</b> of ACM Transactions on the Web (TWEB) IEEE Transactions on Mobile Computing (TMC) ACM Transactions on Internet Technology (TOIT) IEEE Transactions on Services Computing (TSC) ACM Transactions on Intelligent Systems and Technology (TIST) Journal of Systems and Software (JSS) Elsevier Neurocomputing (Neurocomputing) Artificial Intelligence Review
PC member	2023: WWW (Research Track), SANER (Tool Demo Track) 2022: ISSRE (Research Track), ICSE (SEIP Track), ESEC/FSE (Industry Track), ASE (Tool Demo Track), Emoji@NAACL 2021: ESEC/FSE (Industry Track), SEmotion@ICSE, MSR (Shadow PC), IEEE EDGE (Technical Track), Emoji@ICWSM
Co-reviewer	2023: ICSE 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

---

## 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

---

## 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