Kai Gao

Ph.D. Candidate

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Biography

Kai Gao is a final-year Ph.D. candidate in Software Engineering at Peking University (PKU), advised by Bing Xie and Minghui Zhou in Key Lab of High Confidence Software Technologies (PKU), Ministry of Education. He received his Bachelor's degree in Computer Science (major) and Economics (dual major) from Peking University in 2019. His research interests span software engineering, with a focus on open source software supply chain, mining software repositories, and empirical software engineering. He is also actively exploring intelligent software engineering and program analysis.

Education

Peking University **Beijing, China**
Ph.D. in Software Engineering *Sept. 2019 – Jun. 2024 (expected)*
Advisor: Prof. Bing Xie and Prof. Minghui Zhou

Peking University **Beijing, China**
Bachelor in Economics (dual major) *Sept. 2017 – Jun. 2019*

Peking University **Beijing, China**
Bachelor in Computer Science and Technology *Sept. 2015 – Jun. 2019*

Professional Services

Program Committee Member

- 2022: ICSE Artifact Evaluation Track

Transaction/Journal Reviewer

- Journal of Software: Evolution and Process

Publications

Refereed Journal Articles

[1] **Kai Gao**, Runzhi He, Bing Xie, and Minghui Zhou. Characterizing Deep Learning Package Supply Chains in PyPI: Domains, Clusters, and Disengagement. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 2023. [CCF A]

[2] **Kai Gao**, Hao He, Bing Xie, and Minghui Zhou. Survey of Open Source Software Supply Chain (in Chinese). *Journal of Software*, 2023. [CCF 中文 A]

[3] **Kai Gao**, Zhixing Wang, Audris Mockus, and Minghui Zhou. On the Variability of Software Engineering Needs for Deep Learning: Stages, Trends, and Application Types. *IEEE Transactions on Software Engineering (TSE)*, 2022. [CCF A]

Refereed Conference Publications

[1] Weiwei Xu, Hao He, **Kai Gao**, and Minghui Zhou. Understanding and Remediating Open-Source License Incompatibilities in the PyPI Ecosystem. In *Proceedings of the 38th IEEE/ACM International Conference on Automated Software Engineering (ASE 2023)*. [CCF A]

[2] Jianyu Wu, Weiwei Xu, **Kai Gao**, Jingyue Li, and Minghui Zhou. Characterize Software Release Notes of GitHub Projects: Structure, Writing Style, and Content. In *Proceedings of the 30th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2023)*. [CCF B]

[3] Jianyu Wu, Hao He, Wenxin Xiao, Kai Gao, and Minghui Zhou. Demystifying Software Release Note Issues on GitHub. In **Proceedings of the 30th International Conference on Program Comprehension (ICPC 2022)**. **ACM SIGSOFT Distinguished Paper Award**. [CCF B]

[4] Xin Tan, Kai Gao, Minghui Zhou, and Li Zhang. An Exploratory Study of Deep Learning Supply Chain. In *Proceedings of the 44th International Conference on Software Engineering (ICSE 2022)*. [CCF A]

Honers and Awards

- **ACM SIGSOFT Distinguished Paper Award** ICPC 2022
- **National Encouragement Scholarship**, Peking University 2018
- Founder Scholarship, Peking University 2018
- Award for Academic Excellents, Peking University 2018, 2020, 2022
- Award for Community or Public Service, Peking University 2017

Project Experience

- National Science Fund for Distinguished Young Scholars of China (Grant No. 61825201), Open Source Software Development, Main Participant Jan. 2019 – Dec. 2023
- National Key Research and Development Program of China (Grant No. 2018YFB1004201), Cloud Computing and Big Data Open Source Ecosystem, Main Participant Jan. 2019 – Dec. 2021
- National Natural Science Foundation of China (Grant No. 62332001), Open Source Software Trustworthiness Analysis and Assurance, Participant Aug. 2023 – Dec. 2023
- Enterprise Collaboration Project with Huawei, Trusted Open Source Ecosystem, Main Participant Nov. 2020 – Nov. 2021

Miscellaneous

Teaching Assistant

- *Quantitative Analysis on Open Source Software* (in English), Graduate-level, PKU 2022

Patent

- 用于快速全网代码溯源检测的代码库设计方法及检测方法（发明人：周明辉，**高恺**，何昊） 2023

Student Services

- *Secretary of Legislation and Supervision*, Graduate Union, PKU 2022
- *Representative of Legislation and Supervision*, Graduate Union, PKU 2021