

## 研究兴趣

我的研究领域是程序设计语言和软件工程。我致力于开发能提升软件系统可用性、可靠性和安全性等方面的底层技术。我最近的研究工作主要集中在静态程序分析和编译器优化等方面。

## 教育经历

- 2022/4 **计算机科学与工程 博士**,  
澳大利亚, 悉尼, 新南威尔士大学.  
导师: 薛京灵
- 2018/7 **计算机科学与技术 工程学硕士**,  
中国, 北京, 中国科学院计算技术研究所和中国科学院大学.  
导师: 李炼
- 2014/7 **天文学 理学学士**,  
中国, 北京, 北京师范大学.  
导师: 余恒
- 2013/7 **教育技术学 理学学士**,  
中国, 北京, 北京师范大学.  
导师: 陈青和余胜泉

## 科研经历

- 2022/3 至今 **博士后研究员**,  
澳大利亚, 悉尼, 新南威尔士大学.  
导师: 薛京灵
- 2018/7 – 2019/2 **研究助理**,  
中国, 北京, 中国科学院计算技术研究所.  
导师: 李炼

## (部分) 荣誉和奖项

- 2019 **ACM SIGSOFT Distinguished Paper Award (ASE 2019)**
- 2018 中科院计算所优秀硕士论文  
中科院计算所计算机体系结构国家重点实验室优秀学生
- 2014 北京师范大学天文系优秀本科论文  
北京师范大学励耘实验班成员

## 发表文章

- TOSEM'23 **IFDS-based Context Debloating for Object-Sensitive Pointer Analysis**,  
*Dongjie He, Jingbo Lu, and Jingling Xue*,  
ACM Transactions on Software Engineering and Methodology, TOSEM 2023.
- TSE'22 **Selecting Context-Sensitivity Modularly for Accelerating Object-Sensitive Pointer Analysis**,  
*Dongjie He, Jingbo Lu, Yaoqing Gao, and Jingling Xue*, IEEE Transactions on Software Engineering,  
TSE 2022.
- ECOOP'22 **Qilin: A New Framework for Supporting Fine-Grained Context-Sensitivity in Java Pointer Analysis**,  
*Dongjie He, Jingbo Lu, and Jingling Xue*, The 36th European Conference on Object-Oriented Programming, ECOOP 2022.

- ASE'21 **Context Debloating for Object-Sensitive Pointer Analysis**,  
*Dongjie He, Jingbo Lu, and Jingling Xue*,  
The 36th IEEE/ACM International Conference on Automated Software Engineering, ASE 2021.
- SAS'21 **Selective Context-Sensitivity for k-CFA with CFL-Reachability**,  
*Jingbo Lu, Dongjie He, and Jingling Xue*,  
The 28th Static Analysis Symposium, SAS 2021.
- ECOOP'21 **Accelerating Object-Sensitive Pointer Analysis by Exploiting Object Containment and Reachability**,  
*Dongjie He, Jingbo Lu, Yaoqing Gao, and Jingling Xue*,  
The 35th European Conference on Object-Oriented Programming, ECOOP 2021.
- TOSEM'21 **CFL-Reachability-based Precision-Preserving Acceleration of Object-Sensitive Pointer Analysis**,  
*Jingbo Lu, Dongjie He, and Jingling Xue*,  
ACM Transactions on Software Engineering and Methodology, TOSEM 2021.
- ISSRE'20 **Exposing Android Event-Based Races by Selective Branch Instrumentation**,  
*Diyu Wu, Dongjie He, Shiping Chen, and Jingling Xue*,  
The 31st International Symposium on Software Reliability Engineering, ISSRE 2020.
- ISSRE'20 **Correlating UI Contexts with Sensitive API Calls: Dynamic Semantic Extraction and Analysis**,  
*Jie Liu, Dongjie He, Diyu Wu, and Jingling Xue*,  
The 31st International Symposium on Software Reliability Engineering, ISSRE 2020.
- ASE'19 **Performance-Boosting Sparsification of the IFDS Algorithm with Applications to Taint Analysis**,  
*Dongjie He, Haofeng Li, Lei Wang, Haining Meng, Hengjie Zheng, Jie Liu, Shuangwei Hu, Lian Li, and Jingling Xue*,  
The 34th IEEE/ACM International Conference on Automated Software Engineering, ASE 2019.  
*ACM SIGSOFT Distinguished Paper Award*
- ASE'18 **Understanding and Detecting Evolution-Induced Compatibility Issues in Android Apps**,  
*Dongjie He, Lian Li, Lei Wang, Hengjie Zheng, Guangwei Li, and Jingling Xue*,  
The 33th IEEE/ACM International Conference on Automated Software Engineering, ASE 2018.
- Draft **A CFL-Reachability Formulation of Callsite-Sensitive Pointer Analysis with Built-in On-the-Fly Call Graph Construction**,  
*Dongjie He<sup>#</sup>, Jingbo Lu<sup>#</sup>, and Jingling Xue*, In submission, [#: equal contribution](#).
- Draft **Automatic Generation of Precision-Aware Stand-Alone Library Summaries for Whole-Program Pointer Analysis**,  
*Jingbo Lu, Dongjie He, Wei Li, Yaoqing Gao, and Jingling Xue*, In submission.
- Draft **Reducing the Memory Footprint of IFDS-based Data-Flow Analyses Using Fine-Grained Garbage Collection**,  
*Dongjie He, Yujiang Gui, Yaoqing Gao, and Jingling Xue*, In submission.

## 学术服务

### Web Chair

CGO'20 18th ACM/IEEE International Symposium on Code Generation and Optimization

### Journal Reviewer

SPE'22 Software: Practice and Experience 2022

JCST'22 Journal of Computer Science and Technology 2022

### Extended Review Committee

ECOOP'22 36th European Conference on Object-Oriented Programming

OOPSLA'22 2022 ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications

### Sub-Reviewer

OOPSLA'20, ICSE'21

### Artifact Evaluation Committee

OOPSLA'21 2021 ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications

CGO'22 20th ACM/IEEE International Symposium on Code Generation and Optimization

ECOOP'22 36th European Conference on Object-Oriented Programming

CC'22 31st ACM SIGPLAN International Conference on Compiler Construction  
OSDI'22 16th USENIX Symposium on Operating Systems Design and Implementation  
ATC'22 2022 USENIX Annual Technical Conference  
OOPSLA'22 2022 ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications  
ASE'22 37th IEEE/ACM International Conference on Automated Software Engineering  
Programming The Art, Science, and Engineering of Programming (2023)

## 证明人

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