

Research Interests

My research interest lies in programming language and software engineering, focusing on techniques for improving software usability, reliability and security. In particular, I am now working on static program analysis and compiler optimization problems. I also have great interests in functional programming languages, type theory, type systems, and formal verification.

Education

- Feb 2019 - **Ph.D., Computer Science and Engineering**,
University of New South Wales (UNSW), Sydney, Australia.
Advisor: Jingling Xue
- July 2018 **M.Sc.Eng., Computer Science and Technology**,
Institute of Computing Technology, CAS (ICT, CAS), and
University of Chinese Academy of Sciences (UCAS), Beijing, China.
Advisor: Lian Li
- July 2014 **B.Sc., Astronomy**,
Beijing Normal University (BNU), Beijing, China.
Advisor: Heng Yu
- July 2013 **B.Sc., Educational Technology**,
Beijing Normal University (BNU), Beijing, China.
Advisors: Qing Chen and ShengQuan Yu

Experience

- July 2018 – **Research Associate**,
Feb 2019 *Institute of Computing Technology, CAS (ICT, CAS)*, Beijing, China.
Advisor: Lian Li

(Selected) Honors and Awards

- 2019 **ACM SIGSOFT Distinguished Paper Award (ASE 2019)**
- 2018 Excellent Thesis Award from ICT, CAS
Outstanding Student, the SKL of Computer Architecture, ICT, CAS
- 2014 Excellent Thesis Award from the Astronomy Department of BNU
A member of LiYun experimental class of BNU

Publications

- 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.

Professional Activities

Web Chair

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

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

External Reviewer

OOPSLA'20, ICSE'21, ECOOP'22