

# KANG HONG JIN

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[kanghj.github.io](https://kanghj.github.io)

## EDUCATION

### Ph.D

2019 -

School of Information Systems  
Singapore Management University  
GPA: 3.91/4

### BACHELOR OF COMPUTING

2012-2016

School of Computing  
National University of Singapore  
First Class Honours/Highest Distinction

## RESEARCH INTERESTS

- Specification Mining
- Machine Learning on Software Engineering
- Test Generation

## PUBLICATIONS

**Active Learning of Discriminative Subgraph Patterns for API Misuse Detection**  
by **Hong Jin KANG**; David LO.

IEEE Transactions on Software Engineering  
<https://ieeexplore.ieee.org/document/9392340/>

### Adversarial Specification Mining

by **Hong Jin KANG**; David LO.

ACM Transactions on Software Engineering and Methodology, Vol. 30, No. 2  
<https://arxiv.org/abs/2103.15350>

### IoTBox: Sandbox Mining to Prevent Interaction Threats in IoT Systems

By **Hong Jin KANG**; David LO; Sheng Qin SIM

IEEE International Conference on Software Testing, Verification and Validation (ICST 2021)

<https://kanghj.github.io/publications/iot-sandbox-camera-ready.pdf>

**BugsInPy: a database of existing bugs in Python programs to enable controlled testing and debugging studies**

by Ratnadira WIDYASARI; Sheng Qin SIM; Camellia LOK; Haodi QI; Jack PLAN; Qijin TAY; Constance TAN; Fiona WEE; Jodie Ethelda TAN; Yuheng YIEH; Brian GOH; Ferdian Thung; **Hong Jin KANG**; Thong HOANG; David LO; Eng Lieh OUH  
ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2020)  
[https://ink.library.smu.edu.sg/sis\\_research/5630/](https://ink.library.smu.edu.sg/sis_research/5630/)

**CC2Vec: Distributed representations of code changes,**  
by Thong HOANG; **Hong Jin KANG**; Julia LAWALL; David LO.  
ACM/IEEE International Conference on Software Engineering 2020 (ICSE 2020)  
<https://arxiv.org/abs/2003.05620>

**Automatic Android Deprecated-API Usage Update by Learning from Single Updated Example**  
by Stefanus Agus HARYONO; Ferdian THUNG; **Hong Jin KANG**; Lucas SERRANO; Gilles MULLER; Julia LAWALL; David LO; Lingxiao JIANG.  
International Conference on Program Comprehension 2020 - Early Research Achievements Track. 2020 (ICPC ERA 2020)  
<https://arxiv.org/abs/2005.13220>

**Towards generating transformation rules without examples for Android API replacement**  
by Ferdian THUNG; **Hong Jin KANG**; Lingxiao JIANG; David LO.  
IEEE International Conference on Software Maintenance and Evolution 2019 (ICSME 2019)  
[https://ink.library.smu.edu.sg/sis\\_research/4824/](https://ink.library.smu.edu.sg/sis_research/4824/)

**Assessing the generalizability of code2vec token embeddings**  
by **Hong Jin KANG**; Tegawende F BISSYANDE.; David LO.  
ACM/IEEE International Conference on Automated Software Engineering 2019 (ASE 2019)  
<http://www.mysmu.edu/faculty/davidlo/papers/ase19-code2vec.pdf>

**Semantic patches for Java program transformation**  
by **Hong Jin KANG**; Ferdian THUNG; Julia LAWALL; Gilles MULLER; Lingxiao JIANG; David LO.  
European Conference on Object-Oriented Programming 2019 (ECOOP 2019)  
[https://ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=5488&context=sis\\_research](https://ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=5488&context=sis_research)

**A Comparison of Word Embeddings for English and Cross-Lingual Chinese Word Sense Disambiguation**  
By **Hong Jin KANG**; Tao CHEN; Muthu Kumar CHANDRASEKARAN; Min-Yen KAN.  
The COLING Workshop on Natural Language Processing Techniques for Educational Applications Workshop (NLP-TEA-3 2016)  
<https://arxiv.org/abs/1611.02956>

## WORKING EXPERIENCE

**APR 2018 – DEC 2018**

**RESEARCH ENGINEER, SMU**

- Worked with cutting-edge tools and managed cloud-based infrastructure.

**2018 – AUG 2018**

**BACKEND ENGINEER, GRAB**

- Worked with cutting-edge tools and managed cloud-based infrastructure.
- Owned a microservice on the critical path of all bookings. Improved testing to identify single points of failure, improving the resilience of the service to ensure uptime and SLAs are met.

**AUG 2016 –2018**

**SOFTWARE ENGINEER, WORKS APPLICATIONS CO. LTD**

- Worked on enterprise-grade HR Enterprise Resource Management software.
- Helped mentored several junior engineers.
- Full-stack development from the back-end using Spring, management of Cassandra, Elasticsearch, to implementing a new user experience on the front-end with modern frameworks.

**AUG 2015 – MAY 2016**

**STUDENT SOFTWARE ENGINEER, TEAMMATES @ NUS**

- Involved in both planning and development of the project. Planned and managed weekly releases.
- Part of the team that introduced static analysis tools and CI to the project.

**MAY 2014 – AUG 2014**

**INTERN, TEAMIE**

- Developed several new features, including a feature that summarizes users' activity logs to identify interesting parts of their history on the platform.

## SKILLS

- General Software Engineering (Git, various IDEs, bash, python, Java)
- Functional Programming (OCaml, Scala)
- Machine learning and Deep Learning Frameworks (scikit-learn, tensorflow)
- Web Programming (Javascript, Spring framework)
- Databases (MySQL, Cassandra, Elasticsearch)
- Declarative programming (answer set programming, clingo)