

KANG HONG JIN

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School of Information Systems
Singapore Management University

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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>

AndroEvolve: Automated Update for Android Deprecated-API Usages

by Stefanus Agus HARYONO; Ferdian THUNG; David LO; Lingxiao JIANG; Julia LAWALL; **Hong Jin KANG**; Lucas SERRANO; Gilles MULLER
ACM/IEEE International Conference on Software Engineering 2021 (ICSE 2021) – Demonstrations

<https://arxiv.org/abs/2012.07259>

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/

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/

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

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>

ONGOING WORK

AndroEvolve: Automated Android API Update with Data Flow Analysis and Variable Denormalization

by Stefanus Agus HARYONO; Ferdian THUNG; David LO; Lingxiao JIANG; Julia LAWALL; **Hong Jin KANG**; Lucas SERRANO; Gilles MULLER

Under Major Revision at Empirical Software Engineering

BiasFinder: Metamorphic Test Generation to Uncover Bias for Sentiment Analysis Systems.

Muhammad Hilmi ASYROFI; Imam Nur Bani YUSUF; Hong Jin KANG; Ferdian THUNG; Zhou YANG; David LO:

Under review at Transaction on Software Engineering

Test generation for uncovering vulnerabilities from third-party libraries (renamed to avoid double-blind violations)

Hong Jin KANG; Truong Giang NGUYEN; Bach LE; Corina PASAREANU; David LO; Currently under review

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)