

JIALUN CAO

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EDUCATIONAL BACKGROUND

The Hong Kong University of Science and Technology

Sep 2019 – Present

- Department of Computer Science and Engineering
- **Supervisor:** Shing-Chi CHEUNG
- **Research area:** deep learning system analysis, testing and debugging

M.S., University of Chinese Academy of Sciences

Sep 2016 – Sep 2019

- State Key Laboratory of Computer Science, Institute of Software, Chinese Academy of Sciences
- **Supervisor:** Yongjian LI
- **Major:** Computer Software and Theory
- **CGPA:** 88.31 (**Rank: 2 / 106, Top 2%**)

B.S., Shandong University

Sep 2012 - Jun 2016

- School of Mechanical, Electrical & Information Engineering, Computer Science Department
- **CGPA:** 89.57 (**Rank: 2 / 52, Top 4%**)

HONORS AND AWARDS

- 2019 – 2021 Huawei Fellowship Scholarship
- 2017 China National Scholarship (**Postgraduate, Rank 1/106, Top 1%**)
- 2014 China National Scholarship (**Undergraduate, Rank 1/52, Top 2%**)
- 2016 – 2019 First-class Academic Scholarship (**Postgraduate, Top 10%**)
- 2012 – 2016 First Prize Scholarship (**Top 10%**)
- 2012 – 2016 Merit Student (**Top 4%**)
- 2016 Alibaba Tianchi & CCF Contest (**Rank 13/2845, Top 0.46%**)

PUBLICATIONS (In chronological order)

[ICSE 2022]

CCF-A

DeepFD: Automated Fault Diagnosis and Localization for Deep Learning Programs

Jialun Cao, Meiziniu Li, Xiao Chen, Ming Wen, Yongqiang Tian, Bo Wu, Shing-Chi Cheung

[USENIX Security 2022]

CCF-A

RegexScalpel: Regular Expression Denial of Service (ReDoS) Defense by Localize-and-Fix

Yeting LI, Yecheng SUN, Zhiwu XU, Jialun CAO, Yuekang LI, Rongchen LI, Haiming CHEN, Shing-Chi CHEUNG, Yang LIU

- [TOSEM 2021] CCF-A
SemMT: A Semantic-based Testing Approach for Machine Translation Systems
Jialun CAO, Meiziniu LI, Yeting LI, Ming WEN, Shing-Chi CHEUNG, Haiming CHEN
- [USENIX Security 2021] CCF-A
ReDoSHunter: A Combined Static and Dynamic Approach for Regular Expression DoS Detection.
 Yeting LI, Zixuan CHEN, **Jialun CAO**, Zhiwu XU, Qiancheng PENG, Haiming CHEN, Liyuan CHEN, Shing-Chi CHEUNG
- [ICSE 2021] CCF-A
TransRegex: Multi-modal Regular Expression Synthesis by Generate-and-Repair.
 Yeting LI, Shuaimin LI, Zhiwu XU, **Jialun CAO**, Zixuan CHEN, Yun HU, Haiming CHEN, Shing-Chi CHEUNG.
- [ASE 2020] CCF-A
FlashRegex: Deducing Anti-ReDoS Regexes from Examples.
 Yeting LI, Zhiwu XU, **Jialun CAO**, Haiming CHEN, Tingjian GE, Shing-Chi CHEUNG, Haoren ZHAO
- [ICDE 2020] CCF-A
FlashSchema: Achieving High Quality XML Schemas with Powerful Inference Algorithms and Large-scale Schema Data.
 Yeting LI, **Jialun CAO**, Haiming CHEN, Tingjian GE, Zhiwu XU, Qiancheng PENG
- [DASFFA 2019] CCF-B
A Learning-Based Framework for Automatic Parameterized Verification.
 Yongjian LI, **Jialun CAO (1st student author)**, Jun PANG
- [ICCD 2019] CCF-B
A Learning-Based Framework for Automatic Parameterized Verification.
 Yongjian LI, **Jialun CAO (1st student author)**, Jun PANG
- [ASE 2018] CCF-A
L-CMP: an automatic learning-based parameterized verification tool.
Jialun CAO, Yongjian LI, Jun PANG
- [QRS 2018] CCF-C
An Automatic Parameterized Verification of FLASH Cache Coherence Protocol.
 Yongjian LI, **Jialun CAO (1st student author)**, Kaiqiang DUAN

TEACHING EXPERIENCE

HKUST COMP3021 Java Programming, Fall 2020. Teaching Assistant.