JIALUN CAO

Mobile   (+86) 1-595-959-5756   Homepage: https://bella-academic.netlify.app

Email   jcaoap@cse.ust.hk   Github: https://github.com/ArabelaTso

EDUCATIONAL BACKGROUND

The Hong Kong University of Science and Technology   **Sep 2019 – Present**

- Department of Computer Science and Engineering
- **Supervisor**: **Prof. Shing-Chi CHEUNG (Chair Professor, IEEE fellow)**
- **Research areas**: Trustworthy AI, AI software testing, defect detection, fault localization

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**: Prof. Yongjian LI
- **Research areas**: Formal Method, Parameterized Verification
- **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
2019 – 2022   Hong Kong Postgraduate 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

Articles in Refereed Journals

Top journal statistics: 1st author (1)
TOSEM (2)

[TOSEM 2021]   **CCF-A**

SemMT: A Semantic-based Testing Approach for Machine Translation Systems

<u>**Jialun Cao,**</u> Meiziniu LI, Yeting Li, Ming WEN, Shing-Chi CHEUNG, Haiming CHEN

[TOSEM 2023]   **CCF-A**

COMET: Coverage-guided Model Generation for Deep Learning Library Testing

Meiziniu Li, **Jialun Cao**, Yongqiang Tian, Tsz-On Li, Ming Wen, Shing-Chi Cheung

Refereed Conference Publications

Top conference statistics: 1st author (3), 1st student author (2)
ESEC/FSE (2), ICSE (2), ASE (2), USENIX Security (2), ICDE (1), ICCD (1), DASFFA (1), QRS (1)

[ESEC/FSE 2023]   **CCF-A**

Testing Coreference Resolution Systems without Labeled Test

<u>**Jialun Cao**</u>, Yaojie Lu, Ming Wen, Shing-Chi Cheung

[ICSE 2022]   **CCF-A**

DeepFD: Automated Fault Diagnosis and Localization for Deep Learning Programs

<u>**Jialun Cao**</u>, Meiziniu Li, Xiao Chen, Ming Wen, Yongqiang Tian, Bo Wu, Shing-Chi Cheung

[ASE 2018]   **CCF-A**

L-CMP: an automatic learning-based parameterized verification tool.

<u>**Jialun CAO**</u>, Yongjian LI, Jun PANG

[ESEC/FSE 2023]   **CCF-A**

Understanding the Bug Characteristics and Fix Strategies of Federated Learning Systems

Xiaohu Du, Xiao Chen, **Jialun Cao**, Ming Wen, Shing-Chi Cheung, Hai Jin

[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

[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**

Learning k-Occurrence Regular Expressions with Interleaving.

Yeting Li, Xiaolan Zhang, **Jialun Cao**, Haiming Chen, Chong Gao

[ICCD 2019]   **CCF-B**

A Learning-Based Framework for Automatic Parameterized Verification.

Yongjian LI, **Jialun CAO (1st student author)**, Jun PANG

[QRS 2018]   **CCF-C**

An Automatic Parameterized Verification of FLASH Cache Coherence Protocol.

Yongjian LI, **Jialun CAO (1st student author)**, Kaiqiang DUAN

PROFESSIONAL SERVICES

Transactions on Knowledge Discovery from Data. **Reviewer**.
Transactions on Mobile Computing. **Reviewer**.

TEACHING EXPERIENCE

HKUST COMP1021 Python Programming, Fall 2023. Teaching Assistant.
HKUST COMP3021 Java Programming, Fall 2020. Teaching Assistant.
HKUST COMP3021 Java Programming, Spring 2020. Teaching Assistant.