Boyuan Chen
North York
Toronto, ON M2N7L8

647.834.5818 (cell)
chenfsd@gmail.com
https://www.eecs.yorku.ca/~chenfsd

Highlights

- Rich experiences in both **industry** (converted cutting-edge research into prototypes that have been integrated to large-scale industrial projects in companies like Huawei/IBM/Baidu) and **academia** (authored a list of high-quality peer-reviewed manuscripts in top venues in sofware engineering: ICSE/ASE/EMSE).
- **Research Interests**: empirical software engineering, software logging, mining software repositories, and software engineering for AI systems.

Education

- **York University** — Toronto, Canada
  Ph.D, Computer Engineering — *Jan. 2017 - Oct. 2020*
  - NSERC CGS-D Award Holder
- **York University** — Toronto, Canada
  M.A.Sc., Computer Engineering — *Sep. 2014 - Dec. 2016*
- **Fudan University** — Shanghai, China
  Exchange Student — *2012*
- **University of Science and Technology of China** — Hefei, China
  B.E., Computer Science — *Sep. 2010 - Jun. 2014*

Publications

C5: Studying the Use of Java Logging Utilities in the Wild.
Boyuan Chen, *Zhen Ming (Jack) Jiang. Accepted in 42nd International Conference on Software Engineering* ***(ICSE 2020)****. Acceptance rate 20.9%.*

C4: An Industrial Experience Report on Performance-Aware Refactoring on a Database-centric Web Application.
Boyuan Chen, *Zhen Ming (Jack) Jiang, Paul Matos, Michael Lacaria. In Proceedings of International Conference on Automated Software Engineering* ***(ASE 2019)****. Acceptance rate 20.9%.*

C3: Improving the Software Logging Practices in DevOps.
Boyuan Chen*. In Proceedings of International Conference on Software Engineering 2019 - Doctoral Symposium Track* ***(ICSE-DS 2019)****. Acceptance rate 29.0%.*

C2: Automated Approach to Estimating Code Coverage Measures via Execution Logs.
Boyuan Chen, *Jian Song, Peng Xu, Xing Hu, Zhen Ming (Jack) Jiang. In Proceedings of International Conference on Automated Software Engineering* ***(ASE 2018)****. Acceptance rate 19.9%.*

C1: Characterizing and Detecting Anti-patterns in the Logging Code.
Boyuan Chen, *Zhen Ming (Jack) Jiang. In Proceedings of International Conference on Software Engineering* ***(ICSE 2017)****. Acceptance rate 16.3%.*

J3: A Survey of Software Log Instrumentation.
Boyuan Chen, *Zhen Ming (Jack) Jiang. ACM Computing Surveys.* ***(CSUR 2021)****. Impact Factor 7.990.*

J2: Extracting and Studying the Logging-Code-Issue-Introducing Changes in Java-based Large-Scale Open Source Software Systems.
Boyuan Chen, *Zhen Ming (Jack) Jiang. Empirical Software Engineering Journal* ***(EMSE 2019)****. Impact Factor 2.933.*

J1: Characterizing Logging Practices in Java-based Open Source Software Projects - a Replication Study in Apache Software Foundation.
Boyuan Chen, *Zhen Ming (Jack) Jiang. Empirical Software Engineering Journal* ***(EMSE 2017)****. Impact Factor 2.933.*

Industry Experience

- **Huawei Canada - Toronto Centre for Software Excellence** Markham, Canada
  Senior Researcher *November 2020 - Now*
  - Conducted research on software engineering theories and practices for developing and maintaining high quality AI systems.
  - Communicated with internal and external collaborators on various research projects.

- **Huawei Canada - Toronto Centre for Software Excellence** Markham, Canada
  Research Intern *April 2020 - November 2020*
  - Participated in various software engineering research related activities to improve the software testing process.

- **Copywell** Toronto, Canada
  Research Collaborator *September 2018 - April 2019*
  - Designed and implemented a performance-aware database ORM code refactoring prototype. This prototype can detect inefficient and duplicate ORM code. We summarized a catalog of 17 ORM anti-pattern types. Among them, 6 types of them and more than 100 inefficient code snippets have been detected in the code base of Copywell. After fixing the issues, the response time can be reduced up to 93%. This work has been published in ASE 2019.

- **Baidu - Cloud Testing Group** Beijing, China
  Research Intern *August 2017 - December 2017*
  - Designed and implemented a research prototype to estimate the test coverage in five industry projects by analyzing execution logs. The prototype was evaluated by QA engineers and received positive feedback. This work has been published in ASE 2018.
  - Designed and implemented a machine learning based prototype to predict the risky source code files.

- **IBM Canada** Toronto, Canada
  Research Partner *January 2016 - August 2016*
  - Designed and implemented a distributed log analysis framework using Hadoop and Python. This framework can be used to detect anti-patterns in logging code as well as problematic log message sequences in production logs generated by large-scale real world distributed systems.

Skills

Domains: Software engineering, data analytics, mining software repositories, machine learning

Programming Languages: Java, Python, R, Shell script, PHP, C, LaTeX

Frameworks : Scientific Computing(numpy/pandas/scikit-learn);Big Data Platform (Hadoop/HBase); VCS (git/SVN); Machine learning (tensorflow/pytorch)

Languages : Mandarin, English

Awards and Grants

NSERC CGS-D Award (one of the most prestigious award for PhD student in Canada)	2019
SIGSOFT CAPS Travel Grant (ASE)	2019
SIGSOFT CAPS Travel Grant (ICSE)	2019
SIGSOFT CAPS Travel Grant (ASE)	2018
Liu Li Scholarship of Leadership (USTC) (Top 1 in CS department)	2013
Award of Excellent Student (USTC)	2010 - 2013

Invited Talks

Machine Learning Testing (Guest Lecture)	2021
Software Architecture: 4+1 views (Guest Lecture)	2019
Software Testing: a survey on load testing (Guest Lecture)	2018

Activities

Student volunteer in ASE 2019 for Inclusion and Diversity Lunch	2019
Mentored two grade-11 students in Women in Engineering Student Research	2018

Services

Co-review for JSS	2019
Co-review for SQUADE/ICSME/TSE	2018
Co-review for ICSME	2017
Co-review for ICSE-SEIP	2015