JIAWEI WANG

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EDUCATION

Technische Universität Dresden *September 2021 - Present*
PhD Student, Computer Science
Advisor: Prof. Dr. rer. nat. *Hermann Härtig*

University of Science and Technology of China *September 2017 - July 2020*
Master of Computer Software and Theory
Advisor: Research professor *Cheng Li* and Professor *Xinyu Feng*
Thesis: A Language for Fine-Grained Consistency in Distributed Systems: Design and Implementation

University of Science and Technology of China *September 2013 - June 2017*
Bachelor of Computer Science and Technology
Advisor: Doctor *Ming Fu* and Professor *Xinyu Feng*
Thesis: Formalizing SPARCv8 Instruction Set Architecture in Coq

RESEARCH INTERESTS

I am interested in *concurrency*. My research focuses on how to make the program run correctly and fast under a concurrent environment. Specifically, I am interested in *weak consistency models*, *relaxed memory models*, and *concurrent data structures* combined with *formal verification* techniques.

PUBLICATIONS

BBQ: A Block-based Bounded Queue for Exchanging Data and Profiling (slides)
Jiawei Wang, Diogo Behrens, Ming Fu, Lilith Oberhauser, Jonas Oberhauser, Jitang Lei, Geng Chen, Hermann Härtig, and Haibo Chen
*2022 USENIX Annual Technical Conference (**USENIX ATC '22**).*

AutoGR: Automated Geo-Replication with Fast System Performance and Preserved Application Semantics (slides, video, and project page)
Jiawei Wang, Cheng Li, Kai Ma, Jingze Huo, Feng Yan, Xinyu Feng, and Yinlong Xu
*47th International Conference on Very Large Data Bases (**VLDB'21**).*

Formalizing SPARCv8 Instruction Set Architecture in Coq
Jiawei Wang, Ming Fu, Lei Qiao, and Xinyu Feng
*Science of Computer Programming (**SCP**), February 2020. ©Elsevier.*
(Journal version of the *SETTA'17* paper)

Formalizing SPARCv8 Instruction Set Architecture in Coq (TR, talk, and project page)
Jiawei Wang, Ming Fu, Lei Qiao, and Xinyu Feng
*3rd International Symposium on Dependable Software Engineering: Theories, Tools, and Applications (**SETTA'17**). ©Springer.*
Best Paper Award Honorable Mention

EXPERIENCE

Industrial PHD Student in Safe and Scalable System Software Concurrentcy Group,
Huawei Dresden Research Center
September 2021 - Present

Research assistant in System Research Group, Microsoft Research Asia
February 2021 - August 2021
Advisors: *Fan Yang* and *Mike Chieh-Jan Liang*
- AI for compiler optimization, AI for cache replacement policy

Research assistant in OS Kernel Lab, Huawei Hangzhou Research Institute
July 2020 - November 2020
- Implement and verify memory replacement algorithm in OS kernel (e.g., RCU, RLU, EBR)
- Implement and verify lock and lock-free data structure under relaxed memory model

Teaching assistant for *Compiler Principles*, USTC *(2019, Fall Semester)*
Teaching assistant for *Compiler Principles*, USTC *(2018, Fall Semester)*
Teaching assistant for *Computer Programming II*, USTC *(2018, Summer Semester)*
Teaching assistant for *Computer Programming II*, USTC *(2018, Spring Semester)*

Research assistant in R&D department of cloud storage, Alibaba Cloud
July 2016 - October 2016
- Design and implement the front-end server for Function Compute Service (Serverless)

TECHNICAL STRENGTHS

Logic & Verification	Coq	Z3	Prolog	TLA+	**Programming Language**	C	C++	Python	Java

Functional Programming	Haskell	Scala	Ocaml	Scheme	**Other Skills**	Keras	LaTeX

HONORS & AWARDS

Second Prize Fellowship of University of Science and Technology of China	*2018*
First Prize Fellowship of University of Science and Technology of China	*2017*
Best paper award honorable mention for the paper presented at *SETTA'17*	*2017*
Outstanding Undergraduate Graduation Thesis (top 5%), USTC	*2017*
New student fellowship of University of Science and Technology of China	*2013*
First prize of Chinese Physics Olympiad, Hebei, China	*2012*