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## RESEARCH INTERESTS

My research interests lie on computer architecture, e.g., intermittent computing, nonvolatile memory, and crash consistency etc, and compiler optimizations for underlying new architectural features.

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## EDUCATION

- **Purdue University** West Lafayette, IN  
*Ph.D. in Computer Science* Aug. 2019 – Now
- **Virginia Tech** Blacksburg, VA  
*Ph.D in Computer Science; Transferred to Purdue University* Aug. 2018 – May. 2019
- **Huazhong University of Science and Technology** Wuhan, China  
*Master of Science in Computer Science; GPA: 3.7* Sept. 2014 – June. 2017
- **Jiaxing University** Jiaxing, China  
*Bachelor of Science in Computer Science; GPA: 3.7* Sept. 2010 – June. 2014

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## EXPERIENCE

- **Purdue University** West Lafayette, IN  
*Graduate Research Assistant* Aug 2019 - Present  
devoted to creating a series of novel compiler optimizations and architectural techniques to improve the reliability (Turnpike;MICRO’21), performance (ReplayCache;MICRO’21) of general-purpose and intermittent computing systems.
- **Virginia Tech** Blacksburg, VA  
*Graduate Research Assistant* Aug 2018 - Aug 2019
- **Alibaba T-Head Semiconductor** Hangzhou, China  
*Compiler Engineer* Dec 2017 - July 2018
  - **C-Sky backend of GCC/LLVM**: engaged in improving GCC backend, developing LLVM backend for C-Sky CPU, and tuning GCC/LLVM optimizations for customized C-Sky ISA/Microarchitecture.
- **Alibaba Taobao BU** Hangzhou, China  
*Senior Software Engineer* June 2017 - Dec 2017
  - **Static Program Analyzer**: finished a static analyzer for C-family languages based on Clang 5, which is widely used for statically validating correctness and robustness of mobile Taobao (the most popular online shopping platform in China) APP.
- **Alibaba Group** Hangzhou, China  
*Software Engineer Intern* June 2016 - Aug 2016
  - **Static-JavaScript based-on Google V8 virtual machine**: tuned the fore-end of Google V8 virtual machine to add some functions for supporting static type annotation of JavaScript language.
- **Huazhong University of Science and Technology** Wuhan, China  
*Teaching Assistant* Sept 2014 - June 2015
  - **teaching assistant for compiler course**:

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## PUBLICATION

- **MICRO’21**: ReplayCache: Enabling Volatile Caches for Energy Harvesting Systems, **Jianping Zeng**, Jongouk Choi, Xinwei Fu, Ajay P. Shreepathi, Dongyoon Lee, Changwoo Min, and Changhee Jung
- **MICRO’21**: Turnpike: Lightweight Soft Error Resilience for In-Order Cores, **Jianping Zeng**, Hongjune Kim, Jaejin Lee, and Changhee Jung
- **PLDI’20**: Compiler-Directed Soft Error Resilience for Lightweight GPU Register File Protection, Hongjune Kim, **Jianping Zeng**, Qingrui Liu, Mohammad Abdel-Majeed, Jaejin Lee, Changhee Jung

## PROJECTS

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- **XCC Research Compiler:** Open source C/C++/Fortran Compiler written in Java for research purpose, which accepts LLVM IR as input and produce ARM/X86 assembly code. The main motivation of this project is greatly leveraging the safe programming model provided by managed language, e.g., Java, to free compiler engineer so that compiler engineer can be concentrated on problem-specific coding work instead of being distracted by other irrelevant bugs.

## PROGRAMMING SKILLS

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- **Languages:** C/C++, Java, Python, LLVM, ARM/X86 assembly
- **Technologies:** Compiler and Computer Architecture

## SERVICES

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- **Organization Committee:** LCTES'2020 (Web Chair)