

CHAO PENG

IF-4.23, Informatics Forum, 10 Crichton Street, Edinburgh, EH8 9AB, United Kingdom

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EDUCATION

University of Edinburgh

Edinburgh, UK

PhD in Informatics (Software Engineering)

September 2017 - In progress

Supervised by Dr. Ajitha Rajan

- Fully funded by the School of Informatics Scholarship
- Research fields:
 - Coverage metrics and test case generation for GPU programs,
 - Program analysis of smart contracts,
 - Android GUI testing.

University of Edinburgh

Edinburgh, UK

MSc in High Performance Computing with Data Science

September 2016 - August 2017

- Thesis: FEniCS Performance Investigation and Porting miniDFT to GPU Clusters
- Received Achievement Award of the 6th Annual HPCAC Student Cluster Competition

Xuzhou University of Technology

Xuzhou, China

BSc in Computer Science and Technology

September 2012 - June 2016

- Awarded 2 × National Scholarship by Ministry of Education of China
- Awarded National Encouragement Scholarship by Department of Education of Jiangsu Province
- Awarded Honored Undergraduate of Xuzhou University of Technology
- President of the Student Union of School of Information & Electrical Engineering

INTERNSHIP EXPERIENCE

ByteDance Co., Ltd.

05/07/2021 - Present

Quality Lab

Beijing, China

- Mentors: Zhao Zhang, Ping Yang
- Duties: Advanced mobile App testing.

Huawei Edinburgh Research Centre

23/11/2020 - 22/06/2021

Programming Languages Lab, 2021 Laboratories

Edinburgh, UK

- Mentor: Dan Ghica, Head of PL Lab
- Duties: Compiler backend testing and benchmarking. Compiler implementation and optimisation.

Huawei London Research Centre

28/10/2019 - 28/02/2020

Hisilicon Kirin GPU Team, 2012 Laboratories

London, UK

- Mentor: Graham Connor, Chief GPU Scientist
- Final Appraisal: Excellent
- Duties: Design of the layout of the benchmarking framework, implementation of the build system and cross-platform support, design and implementation of GPU micro-benchmarks.

RESEARCH PUBLICATIONS

7. Sefa Akca, **Chao Peng**, Ajitha Rajan. *Testing Smart Contracts: Which Technique Performs Best?* In proceedings of the 15th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM 2021) October 2021

6. **Chao Peng**, Ajitha Rajan, Tianqin Cai. *CAT: Change-focused Android GUI Testing.* In proceedings of the 37th International Conference on Software Maintenance and Evolution (ICSME 2021) September 2021

5. **Chao Peng**, Ajitha Rajan. *Automated Test Generation for OpenCL Kernels using Fuzzing and Constraint Solving.* In proceedings of the 11th Workshop on General Purpose GPUs 2020 (GPGPU @ PPOPP) February 2020

4. **Chao Peng**, Sefa Akca, Ajitha Rajan. *SIF: A Framework for Solidity Contract Instrumentation and Analysis*. In proceedings of the the 26th Asia-Pacific Software Engineering Conference (APSEC 2019). December 2019
3. Sefa Akca, Ajitha Rajan, **Chao Peng**. *SolAnalyser: A Framework for Analysing and Testing Smart Contracts*. In proceedings of the the 26th Asia-Pacific Software Engineering Conference (APSEC 2019). December 2019
2. **Chao Peng**. *On the Correctness of GPU Programs*. In proceedings of the 2019 ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA 2019). July 2019
1. **Chao Peng**, Ajitha Rajan. *CLTestCheck: Measuring Test Effectiveness for GPU Kernels*. In proceedings of the 22nd International Conference on Fundamental Approaches to Software Engineering (FASE 2019). April 2019

PROFESSIONAL SERVICE

Program Committee Member	ISSTA 2020 Artifact Evaluation, ISSTA 2021 Artifact Evaluation
Student Volunteer	ETAPS 2019, ISSTA 2019, PLDI 2020
Reviewer	ICSE 2019 SEIP (Software Engineering in Practice) Track

SKILLS

Languages	Mandarin Chinese - Native English - Proficient German - Basic
Technical Skills	Programming languages: C/C++, Java, Fortran, Python, Kotlin, Rust Parallel programming: OpenMP, MPI, OpenCL, CUDA, SYCL Program Analysis: Java Soot, Clang LibTooling Computer Graphics: OpenGL (ES), Vulkan
Tools	L ^A T _E X, Git, SVN, CMake, Gradle

TEACHING EXPERIENCE

MSc Projects	04/18 - 08/18, 04/19 - 08/19
<i>Sub-supervisor for MSc Projects</i>	<i>School of Informatics, University of Edinburgh</i>
Helping supervise the following MSc students for their projects:	
<ul style="list-style-type: none"> • Bowen Du: Code coverage measurement for GPU programs • Yangning Li: Random test case generation for OpenCL programs 	
Software Testing	01/18 - 04/18, 01/19 - 04/19
<i>Teaching Assistant, Tutor and Marker</i>	<i>School of Informatics, University of Edinburgh</i>
Computer Programming Skills and Concepts	11/17 - 12/17, 12/18 - 01/19
<i>Marker</i>	<i>School of Informatics, University of Edinburgh</i>
Introduction to Java Programming	09/17 - 12/17, 09/18 - 12/18
<i>Demonstrator</i>	<i>School of Informatics, University of Edinburgh</i>
Nominated for Teaching Awards by students of this course	

SCHOLARSHIPS & HONOURS

SCHOLARSHIPS

- School of Informatics Scholarship (fully-funded PhD scholarship) 04/17
- Outstanding Undergraduate Scholarship 06/16
- China National Scholarship of the 2014/15 Academic Year 11/15
- China National Encouragement Scholarship of the 2013/14 Academic Year 11/14
- China National Scholarship of the 2012/13 Academic Year 11/13

AWARDS

- Nomination for Teaching Awards: Best Student Who Tutors Award 02/18
- Certificate of Achievement for Participating in the 6th Annual HPCAC Student Cluster Competition 06/17
- Distinct Graduate of Xuzhou University of Technology 06/16
- Top Ten Role Models of Learning at Xuzhou University of Technology 03/16
- Jiangsu Province-level Excellent Student Cadre 05/15