

# CHAO PENG

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

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## EDUCATION

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### 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

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### Huawei Edinburgh Research Centre

23/11/2020 - Ongoing

*Programming Languages Lab*

*Edinburgh, UK*

- Project: Programming language backend testing and benchmarking
- Mentor: Dan Ghica, Head of PL Lab

### Huawei London Research Centre

28/10/2019 - 28/02/2020

*Hisilicon Kirin GPU Team*

*London, UK*

- Project: Mobile GPU micro benchmarking
- 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

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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

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

## SKILLS

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<b>Languages</b>	Mandarin Chinese - Native English - Proficient German - Basic
<b>Technical Skills</b>	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
<b>Tools</b>	L <sup>A</sup> T <sub>E</sub> X, Git, SVN, CMake, Gradle

## TEACHING EXPERIENCE

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<b>MSc Projects</b>	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"><li>• Bowen Du: Code coverage measurement for GPU programs</li><li>• Yangning Li: Random test case generation for OpenCL programs</li></ul>	
<b>Software Testing</b>	01/18 - 04/18, 01/19 - 04/19
<i>Teaching Assistant, Tutor and Marker</i>	<i>School of Informatics, University of Edinburgh</i>
<b>Computer Programming Skills and Concepts</b>	11/17 - 12/17, 12/18 - 01/19
<i>Marker</i>	<i>School of Informatics, University of Edinburgh</i>
<b>Introduction to Java Programming</b>	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

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### 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