

CHAO PENG

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EDUCATION

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| University of Edinburgh PhD in Informatics (Software Engineering) <ul style="list-style-type: none">Fully funded by the School of Informatics ScholarshipResearch fields:<ul style="list-style-type: none">Coverage metrics and test case generation for GPU programs,Program analysis of smart contracts,Android GUI testing. | Edinburgh, UK September 2017 - In progress Supervised by Dr. Ajitha Rajan |
| University of Edinburgh MSc in High Performance Computing with Data Science <ul style="list-style-type: none">Thesis: FEniCS Performance Investigation and Porting miniDFT to GPU ClustersReceived Achievement Award of the 6th Annual HPCAC Student Cluster Competition | Edinburgh, UK September 2016 - August 2017 |
| Xuzhou University of Technology BSc in Computer Science and Technology <ul style="list-style-type: none">Awarded 2 \times National Scholarship by Ministry of Education of ChinaAwarded National Encouragement Scholarship by Department of Education of Jiangsu ProvinceAwarded Honored Undergraduate of Xuzhou University of TechnologyPresident of the Student Union of School of Information & Electrical Engineering | Xuzhou, China September 2012 - June 2016 |

WORK EXPERIENCE

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| ByteDance Co., Ltd. <i>Quality Lab, Product RD & infrastructure</i> <ul style="list-style-type: none">Position: Tech Expert / Senior ResearcherDuties: Research on quality engineering for ByteDance products. | 05 Jul 2021 - Present <i>Beijing, China</i> |
| Fudan University <i>School of Computer Science</i> <ul style="list-style-type: none">Position: Part-time Postgraduate Student Mentor | 02 Mar 2022 - Present <i>Shanghai, China</i> |

INTERNSHIP EXPERIENCE

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| Huawei Edinburgh Research Centre <i>Programming Languages Lab, 2021 Laboratories</i> <ul style="list-style-type: none">Mentor: Dan Ghica, Head of PL LabDuties: Compiler backend testing and benchmarking. Compiler implementation and optimisation. | 23/11/2020 - 22/06/2021 <i>Edinburgh, UK</i> |
| Huawei London Research Centre <i>Hisilicon Kirin GPU Team, 2012 Laboratories</i> <ul style="list-style-type: none">Mentor: Graham Connor, Chief GPU ScientistDuties: Design of the layout of the benchmarking framework, implementation of the build system and cross-platform support, design and implementation of GPU micro-benchmarks. | 28/10/2019 - 28/02/2020 <i>London, UK</i> |

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) Febuary 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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| 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

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| Languages | Mandarin Chinese - Native English - Proficient German - Basic |
| Technical Skills | Programming languages: C/C++, Java, Fortran, Python, Kotlin, Rust, Go 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

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| MSc Projects <i>Sub-supervisor for MSc Projects</i> | Apr 18 - Aug 18 and Apr 19 - Aug 19 <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 <i>Teaching Assistant, Tutor and Marker</i> | Jan 18 - Apr 18, Jan 19 - Apr 19 and Jan 21 - Apr 21 <i>School of Informatics, University of Edinburgh</i> |
| Computer Programming Skills and Concepts <i>Marker</i> | Nov 17 - Dec 17 and Dec 18 - Jan 19 <i>School of Informatics, University of Edinburgh</i> |
| Introduction to Java Programming <i>Demonstrator</i> | Sep 17 - Dec 17 and Sep 18 - Dec 18 <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) April 17

- Outstanding Undergraduate Scholarship Jun 16
- China National Scholarship of the 2014/15 Academic Year Nov 15
- China National Encouragement Scholarship of the 2013/14 Academic Year Nov 14
- China National Scholarship of the 2012/13 Academic Year Nov 13

AWARDS

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