Tong Xing

Room 1.34, Informatics Forum, 10 Crichton Street, Edinburgh EH8 9AB, UK

Tong.Xing@ed.ac.uk • +44 (0) 787 1899 282 • https://123toorc.github.io/

INTERESTS

Operating Systems and Virtualization

EDUCATION

Ph.D. in school of informatics at University of Edinburgh, UK — Jan 2021 – Present
Topic: Operating system and virtualization environments

M.S. in School of Engineering & Science at Stevens Institute of Technology, USA — Dec 2018 – May 2020
Program: Computer Science
Thesis: Software Development Methods to Support Heterogeneous-ISA Application Migration

M.S. in College of Arts & Sciences at East Stroudsburg University, USA — Aug 2017 – Nov 2018
Program: Computer Science
(Transferred to Stevens Institute of Technology)

B.S. in School of Energy and Environment at Xihua University, China — Sep 2013 – Jun 2017
Program: Intelligent Building and Electrical Engineering

TUTORIALS & PRESENTATIONS

H-Container Tutorial, **Tong Xing**, Antonio Barbalace, presentation and tutorial at the First Popcorn Summit, 8th of Nov 2019, Virginia Tech, Blacksburg, VA, USA,
Extension the H-Container to support Docker
Prepared the tutorial slide and demo

Programming Heterogeneous-ISA Platforms with Popcorn Linux OS and Compiler Framework, Antonio Barbalace, Pierre Olivier, Binoy Ravindran, tutorial at SOSP 2019, 27th of October 2019, Huntsville, ON, CAN, [*]
Prepared slides material, and helped the audience in the tutorial

PUBLICATIONS

T. Xing, H. Tajbakhsh, I. Haque, M. Honda, A. Barbalace, "Towards Portable End-to-End Network Performance Characterization of SmartNICs," *in Proceedings of 13th ACM Asia-Pacific Workshop on Systems* **(APSys'22)**, Just Accepted, Aug 2022.

T. Xing, A. Barbalace, P. Olivier, ML. Karaoui, W. Wang, B. Ravindran, "H-Container: Enabling Heterogeneous-ISA Container Migration in Edge Computing," *ACM Transactions on Computer Systems***(TOCS)**, Just Accepted, Mar 2022.

A. Barbalace, ML. Karaoui, W. Wang, **T. Xing**, P. Olivier, B. Ravindran, "Edge computing: the case for heterogeneous-ISA container migration," in **VEE '20**: *Proceedings of the 16th ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments*, Pages 73–87, Online, Mar 2020.

ONGOING SUBMISSION

D. Mvondo, **T. Xing**, A. Barbalace, "CloudRep: Smart Black-box Replay of Virtual Machines in the Cloud," *Under submission to the Eurosys'23*

H. Chuang, K. Manaouil, **T. Xing**, A. Barbalace, P. Olivier, B. Heerekar, B. Ravindran, "Aggregate VM: Why Reduce or Evict VM's Resources When You Can Borrow Them From Other Nodes," *Under submission to the Eurosys'23*

T. Xing, T. Wei, J. Balkind, B. Ravindran, A. Sanchez, A. Barbalace, "Stramash: A Fused Kernel Operating System For Cache-Coherent, Heterogeneous-ISA Systems," *Under submission to the ASPLOS'23*

AWARDS & SCHOLARSHIPS

PhD Studentship, — 2021 – 2023
School of Informatics, The University of Edinburgh

Excellence in Graduate Research Award, — May 2020
Stevens Institute of Technology

Student Travel Grant — Mar 2020
ASPLOS 2020

Provost's Masters' Fellowship, — 2018
Stevens Institute of Technology

---

[*]Tong Xing substantially contributed to this tutorial, but at the time of submitting the proposal for this tutorial Tong was not actively working on the project

SKILLS	**Areas of expertise**
	Linux kernel, KVM, Systems design and implementation, SmartNICs(DPU), Emulator(Qemu)
	Programming Language
	C, C++, Python, Assembler 8086, ARM Assembly, Makefile, Shell Script
	Spoken Language
	English, Chinese
REFERENCES	**Dr. Antonio Barbalace** Senior Lecturer – Institute for Computing Systems Architecture, School of Informatics, The University of Edinburgh
	Dr. Michio Honda Lecturer – Institute for Computing Systems Architecture, School of Informatics, The University of Edinburgh
	Dr. Binoy Ravindran Full Professor – Department of Computer Science, The Bradley Department of Electrical and Computer Engineering, Virginal Tech