

Zhuoqun (Tom) Cheng

CONTACT **Cellphone:** (857)210-7316 **E-mail:** czq@bu.edu
INFORMATION **Homepage:** <http://cs-people.bu.edu/czq/>

EDUCATION **Boston University**, Boston, MA September 2012 - present
PhD Student in Computer Science
• Advisor: Professor Richard West
Zhejiang University, Hangzhou, China September 2008 - June 2012
Bachelor of Engineering in Computer Science

RESEARCH **A Separation Kernel Based Drone Operating System**
PROJECTS *May 2017 - present*

- Building a separation kernel based drone operating system that allows RTOS (hosting flight controller) to coexist with general purpose operating system (e.g., Linux) on the same SoC (e.g, Intel Aero compute board).

Shared Resource Management in the Multi-core Separation Kernel Design

February 2017 - April 2017

- Developed an RPC-based mechanism in a separation kernel to enable RTOS to control general purpose operating system (e.g., Linux), while both running on the same hardware. This is aimed at alleviating shared resource contention on a multi-core platform.

A Web-Connected 3D Printer

October 2015 - October 2016

- Designed and implemented one of the world's first web-connected 3D printer.
- Designed and developed the QduinoMC framework that eases the process of porting Arduino control programs to multi-core SoCs.
- Ported the Marlin 3D Printer Control Firmware to the QduinoMC framework. The application runs on the Quest RTOS on the Intel MinnowMAX board.

A Multithreaded Arduino System for Real-time Applications

January 2014 - January 2015

- Extended Arduino API to support multithreaded sketch w/ timing predictability.
- Implemented the new API library on the Quest RTOS on Intel Galileo board and built a prototyping collision-avoidance rover on the new platform.

PUBLICATION **Building Real-Time Embedded Applications on QduinoMC:
A Web-connected 3D Printer Case Study**

Best Student Paper Award

Zhuoqun Cheng, *et al.*, in RTAS 2017

MARACAS: A Real-Time Multicore VCPU Scheduling Framework

Ying Ye, *et al.*, in RTSS 2016

Qduino: A Multithreaded Arduino System for Embedded Computing

Zhuoqun Cheng, *et al.*, in RTSS 2015

Predictable Communication and Migration in the Quest-V Separation Kernel

Ye Li, *et al.*, in RTSS 2014

COLORIS: A Dynamic Cache Partitioning System Using Page Coloring

Ying Ye, *et al.*, in PACT 2014

WORK

Intern Graduate Sr. Advisor

EXPERIENCE

June 2015 - August 2015

Dell Research, Santa Clara, CA, USA

- Developed a blockchain-based task distribution framework for Internet of Things

Software Engineer Intern

December 2011 - April 2012

Xunjiu Inc., Hangzhou, China

- Developed a lightweight web server in U-boot for router firmware update.

IN MEDIA

“Electronic Mirror - BU team will design next-generation body motion tracker”, BU Research, December 8, 2016