Yin Yan

✍ 286 Wellington Ave., Buffalo, N.Y 14223
☎ +1 716-545-3819
✉ yinyan@buffalo.edu

Experiences

Data61/NICTA — Canberra City, ACT, Australia
Research Intern | *2016/10 - 2017/03*

- Ports FijiVM on seL4:
  FijiVM, a Java virtual machine designed for embedded usage with supports of the real-time Java specification. It has an ahead-of-time compiler that takes Java bytecodes and generates executable binaries. seL4 is a micro-kernel with formal verification and comprehensive analysis of worst case execution time. Enabling FijiVM on seL4 improves the predictability of the Fiji runtime, meaning tighter bounds of response time.
  - Studied seL4's scheduling policy and interrupts handling.
  - Extended task and timer to be compatible with the FijiVM's runtime.
  - Implemented Futex with priority inheritance for synchronization.
  - reimplemented arithmetic instructions in the Fiji's runtime with less operating system dependencies.

Department of Computer Science and Engineering at SUNY Buffalo — Buffalo, NY, USA
Research Assistant | *2013/05 - Present*

- RTDroid [a]: A real-time extension to Android system.
  - Analyzed the difficulties of making Android software stack predictable.
  - Integrated RT-Linux kernel and FijiVM for Android equipped smartphone.
  - Redesigned and implemented Android's core communication components and application programming model with timing and memory guarantees.
- jUAV: A Java-based Autopilot application for Unmanned Aerial Vehicle derived from open source drone system, Paparazzi UAV [b].
  - Analyzed C-based autopilot program in Paparazzi UAV.
  - Modeled cyclic executive scheduling into task-based scheduling.
  - Implemented radio communication components to interact with the ground control station in Paparazzi UAV.

Core101, LLC — Buffalo,NY, USA
Part-time Developer | *2012/04 - 2013/05*

- Designed and implemented websites based on existing open source frameworks, including Drupal, Joomla, Spring Framework, etc.
- Deployed and maintained company's web server with nginx, Apache Tomcat and Jetty.

Research Activities

- Present *"Using a Multi-Tasking VM for Mobile Applications"* at HotMobile 2016
- Present *"Real-Time Sensing on Android"* at JTRES 2014
- Present *"Real-time Android with RTDroid"* at Mobisys 2014

[a] https://rtdroid.cse.buffalo.edu
[b] http://wiki.paparazziuav.org/

Education

2013 – PRESENT **Doctor of Philosophy**
Department of Computer Science and Engineering
New York State University at Buffalo

2011 – 2013 **Master of Science**
Department of Computer Science and Engineering
New York State University at Buffalo

2009 – 2004 **Bachelor of Engineering**
Department of Computer Science
Beijing Information Science and Technology University

Computer Skills

• Java • C/C++ • Shell Scripting
• Android Application Development
• Linux Kernel Development
• Python • Scala • Rails
• LaTeX• Gnuplot • Microsoft Office
• J2EE • Spring Framework • Drupal
• HTML • CSS • JavaScript

Selected Courses

Graduate Courses:
• Algorithms • Information Retrieval
• Distributed System • Network
• Advanced Concepts in Programming Languages
• Advanced Computer Systems

Undergraduate Courses:
• Data Structure • Operating System
• Compiler Principles • Database Systems
• Software Engineering Concepts

Publications

[1] Y. Yan, C. Chen, K. Dantu, S. Y. Ko, and L. Ziarek. Using a Multi-Tasking VM for Mobile Applications. In *Proceedings of the 17th International Workshop on Mobile Computing Systems and Applications*, pages 93–98. ACM, 2016.

[2] Y. Yan, S. Cosgrove, V. Anand, A. Kulkarni, S. H. Konduri, S. Y. Ko, and L. Ziarek. Real-time Android with RTDroid. In *Proceedings of the 12th annual international conference on Mobile systems, applications, and services*, pages 273–286. ACM, 2014.

[3] Y. Yan, S. Cosgrove, E. Blantont, S. Y. Ko, and L. Ziarek. Real-Time Sensing on Android. In *Proceedings of the 12th International Workshop on Java Technologies for Real-time and Embedded Systems*, page 67. ACM, 2014.

[4] Y. Yan, S. H. Konduri, A. Kulkarni, V. Anand, S. Y. Ko, and L. Ziarek. RTDroid: A design for Real-Time Android. In *Proceedings of the 11th International Workshop on Java Technologies for Real-time and Embedded Systems*, pages 98–107. ACM, 2013.