Renju Liu

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EDUCATION

Ph.D., Computer Science   Sept 2016 - current
UCLA, Los Angeles, CA 90024
GPA: 3.80/4.0

B.S., Computer Science   Aug 2010 - May 2014
Purdue University, West Lafayette, IN 47907
GPA 3.87/4.0

B.S.E., Electrical Engineering   Aug 2010 - May 2014
Purdue University, West Lafayette, IN 47907
GPA 3.87/4.0, with Distinction

PUBLICATIONS

"PROTC: Protecting Drone's Peripherals through ARM TrustZone"
Renju Liu and Mani Srivastava,
in Proc. of the 3rd Workshop on Micro Aerial Vehicle Networks,
Systems, and Applications (DroNet), 2017

"MyoBuddy: Detecting Barbell Weight Using Electromyogram Sensors"
Renju Liu, Bo-Jhang Ho, Hsiao-Yun Tseng, and Mani Srivastava,
in Proc. of the 1st Workshop on Digital Biomarkers 2017

"Understanding the Characteristics of Android Wear OS."
Renju Liu and Felix Xiaozhu Lin, *in Proc. ACM*
Conf. Mobile Systems, Applications and Services(MobiSys), 2016.
Acceptance rate: **15.7%**

"Anatomizing System Activities on Interactive Wearable Devices"
Renju Liu, Lintong Jiang, Ningzhe Jiang and Felix Xiaozhu Lin,
in Proc. ACM Asia-Pacific Workshop on Systems (APSys), 2015. (Best Paper)

EXPERIENCE

Graduate Research Assistant for Prof. Mani Srivastava   Sept 2016 - current
UCLA, CS Department, Los Angeles, CA
Explore and build a secure IoT framework
- Utilizing ARM TrustZone Technology to monitor the sensor data and drone execution commands
- Apply deep reinforcement learning for IoT devices, drones and unmanned vehicles to self-learn unsafe situations or behaviors
- Build safe drone and unmanned vehicle control system

Explore Android security issue when device is not rooted
- Created App Launcher sandbox for target apps (Venmo, Bank apps)
- Modify or capture sensitive information while target apps send binder transactions

Software Engineering Intern in Detection Infra   June 2017 - Sept 2017
Facebook Inc, Menlo Park, CA
- Work for detection infrastructure to validate security rules
- Provide tools to detect malicious behaviors inside Facebook
- Build internal tools in PHP, JavaScript and React to manage security rules

Graduate Research Assistant for Prof. Felix Lin   Aug 2014 - May 2016
Purdue University, ECE Department, West Lafayette, IN
Explore and build low latency, low energy consumption interactive wearable OS
- Customized profiling tools and submitted Linux kernel patches for Android Wear that is not yet fully open source
- Investigated the causes of high-energy consumption and high-latency of wearable OS using the tools and kernel patches created
- Developed low-latency and low-energy consumption wearable OS based on new learnings using heterogeneous board (Panda board) through leveraging Linux kernel

Undergraduate Research Assistant for Prof. A. Boltasseva   Aug 2013 - Dec 2013
Purdue University, ECE Department, West Lafayette, IN
- Characterized CMOS Plasmonic Waveguide for new gold-silicon materials
- Researched the rationale why new gold-silicon materials are better than classical photonics materials

Java Dev. on Prof. Tim Korb's Community Safety Project   May 2013 - Aug 2013
Purdue University, CS Department, West Lafayette, IN
- Developed Android *SafeWalk* project for *Java* teaching purpose
- Rewrote the client APP for the project
- Improved the backend server connection to make the network connection more reliable and faster

Undergraduate Research Assistant for Prof. Babak Ziaie   May 2012 - Aug 2012
Purdue University, ECE Department, West Lafayette, IN
- Created a minimalist paper-based circuit
- Researched primary cell technology to power the paper-based battery used in the paper based circuit
- Designed a prototype of the battery as part of a team
- Created a prototype of the battery using wax paper
- Lab-tested various chemicals to find the best electrolytes for use in the battery

EDITORIAL DUTIES

Journal reviewer, **Computers & Security**, Dec 2017, https://ees.elsevier.com/cose/default.asp
Journal reviewer, **Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)**, Feb 2018, https://imwut.acm.org/

UNDERGRAD PUBLICATION

"Laser-Assisted Fabrication of Electrochemical Cells on Wax Paper"
Girish Chitnis, Tianlin Tan, **Renju Liu**, Babak Ziaie
in *12th International Workshop on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS) 2012*

TEACHING	*Graduate Teaching Assistant for undergraduate C Programming Class* Spring 2016 Purdue University, ECE Department • Wrote the solutions to class's projects and homework assignments • Held the office hours to help students understand the concepts of C and the assignments *Undergrad Teaching Assistant for Java and Physics Class* Spring 2013, Fall 2012 Purdue University, CS Department & Physics Department • Answered questions for students during recitations • Tutored students on homework, exams, and projects
COMPUTER SKILLS	*Languages & Software:* C, C++, Java, Bash, Python, Objective-C, Swift, MATLAB, ANTLR, YACC, Scheme *System Related Classes:* Operating System, Compilers, Database System, Parallel Programming Machine, Artificial Intelligence, Computer Networks, Information Security
HONORS AND SCHOLARSHIPS	Ross Fellowship, Purdue University Eli Shay ROTC Scholarship, Purdue Uiversity Dean's list & Semester Honors, Purdue University Distinct Undergraduate, Purdue University
EXTRA-CURRICULAR ACTIVITIES	Vice President External of Asian Student Union Board President and Founder of Purdue Street Magic Show Club International Student Ambassador Purdue Outing Club