My name is Chaohao Li and I’m a Ph.D. student at the College of Electronical Engineering, Zhejiang University. As part of the research team in the Ubiquitous System Security Lab, my research spans embedded system security, home automation system security and other hardware security, especially for hard drive. I’m committed to explore the vulnerabilities of Internet of Things (IoT) or other hardware and then try to build the defense mechanism for them. My strengths include circuit design, PCB design and embedded system development. I am currently working on acoustic attacks on hard drives and trying to realize DDos attacks and speed control.

**Education**

**Zhejiang University, Ph.D. in Electrical Engineering 2016.9-Present**

Research Interests: Security of embedded system

Advisor: Prof. Wenyuan Xu

**University of Michigan, Ann Arbor,** **Visiting Scholar in EECS 2016.7-2016.9**

Advisor: Kevin Fu and Peter Honeyman

**Zhejiang University, B.S. in Electrical Engineering 2012.10-2016.7**

*Qizhen Honor Class*, *Chu Ko Chen (CKC)* Honors College

Dissertation: HLCCR: Home-limited Channel Challenge-Response for Home Automation System

**Research Experience**

***Energy Storage Technology for Orderly Charging Strategy***

Project Leader, Responsible for mathematical modeling and software development 2014.6-2015.5

* + - * Introduced energy storage technology to common orderly charging strategy as supplementary.
      * Adopted the Monte Carlo Method to simulate the user charge requirements to test benefit analysis and peak valley curve changes after the introduction of energy storage device capacity factor.
      * Studied the optimal efficiency of the distribution capacity change fluctuation with energy storage device capacity curve.
      * Realized the mathematical modeling and combination optimization by Matlab.

***DC-DC Converter for Electric Vehicle***

Project Leader, Responsible for Circuit and PCB Design  2014.7-2015.5

* + - * Developed a new type of four-channel DC-DC Converter dedicated to electric vehicle.
      * Provided four levels of voltage: 3.3V, 5V, 12V, 24V; Output power can approach to 500W.
      * Achieved remote control of output voltage through app.
      * Awarded “Excellent Scientific Training Program” for Zhejiang University.

***Android App Based on Local data*** 2015.3-2015.5

Project Leader, Responsible for App development

* Developed an Android app based on local data by Android Studio in 10 days.
* Set up a platform to help students find teammates.
* Awarded second place for *2015 IdeaBank National College Entrepreneurship Competition*.

**Working Experience**

**Magilit Bio Technology Co., Ltd.**

Hardware R&D Engineer, Hardware Department 2015.6-2015.10

* + - * Developed a new toy car product prototype based on motion detection independently in three weeks.
      * Carried on the performance testing and optimization of new product.
      * Technical support for circuit and PCB design and embedded development using Keil and Altium Designer.

**CEEG Zhejiang Electric Power Design Institute Co., Ltd.**

System Design Assistant，Department of Electrical System Design 2015.8-2015.9

* Assisted with the research on the feasibility of gas combined cooling heating and power project access system in Nanxun, Zhejiang Province.
* Helped finish the research on the feasibility of the primary side of wind energy system in Caofeidian.
* Collected and studied the development tendency of new energy.

**State Grid Hangzhou Power Supply Company**

Dispatching Assistant, Department of Power Distribution 2014.7-2014.8

* Carried on the establishment of contingency plan for introduction of 800kV ultra-high voltage (UHV).
* Verified and corrected the normal power supply area of 10kV main line in Hangzhou.
* Took charge in daily reliability statistic of power grid in Hangzhou.

**Technical and Personal skills**

***Programming Software:***

Matlab (Proficient), Keil (Proficient), CCS (Proficient), Android Studio (Basic)

***EDA Software:***

Altium Designer (Proficient), Multisim (Proficient), OrCAD Pspise (Basic)

***Power System Software:***

SCADA (Proficient)，PSD-BPA (Proficient)，NRPowerDraw (Proficient)

***Assistant Software:***

MS Office Series (Word, Excel, PPT), Adobe Series (PS, AE), Corel VideoStudio X8