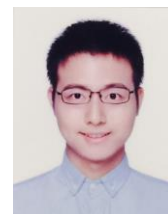


# ZHOU ZHUANG

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## Education

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### Master:

Electrical Engineering, USSlab\*, Zhejiang University(ZJU) 2016.09- 2019.03(expected)

- GPA: 3.90/4 (91.81/100) Rank in Department: top 5% of 45 students
- Research Advisor: Professor Wenyan Xu

### Bachelor:

Electrical Engineering, Zhejiang University(ZJU) 2012.09- 2016.06

- GPA: 3.87/4 (87.27/100) Rank in Department: top 5% of 186 students (ChuKochen Honors College of ZJU\*)
- Research Advisor: Professor Jianxin Shen

## Research Experience

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**Research on the Online Account Security** 2018.03-2018.05

- Developed a python script to automatically collect and analyze the credential factors and personal information from over 100 frequently-used online services. Modeled the interconnection among online accounts based on dependency tree.
- Uncovered the potential risks from the interconnection among online accounts and conducted the real attack for proof.
- Proposed three countermeasures to mitigate the online account threat.

**Data Mining on Novels of Keigo Higashino** 2018.01-2018.03

- Designed and programmed web crawler to collect related information for each novel in Quora, Douban and Zhihu.
- Utilized Baidu API and Jie-ba for Word Segmentation and word frequency count with python script.
- Applied the TF-IDF and LSI model to compare the similarity among the novels.

**The Design of a High Speed and Inaudible Communication System** 2017.07-2018.02

- Discovered and utilized the linearity of MEMS microphone to received ultrasound for communication.
- Used FDM modulation mechanism and dynamic gain control technology to implement the whole system on the mobile.
- Achieved the 16.24kHz transmission rate which is currently the highest speed for inaudible sound wave communication.

**Study of Fake Base Station Forensics** 2016.09-2017.07

- Designed a FBS forensics framework utilizing radio frequency (RF) fingerprints to solve the FBS forensics conundrum.
- Modeled the RF fingerprint from the tiny variance of the signal traces and construct features in 51 dimensions.
- Utilized popular machine learning algorithm for identification and choose SVM for the final implementation.

**Study of Mobile Communication Systems Securities** 2015.09-2016.06

- Employed OpenBTS and USRP, combined OsmocomBB open source projects, built a fake BTS system, designed an Android app to monitor fake BTS attack from a mobile.
- Used Android Studio to develop the monitoring program of the fake BTS system for cellphones.
- Simulated and tested fake BTS attacks to online-payment systems based on SMS 2FA, improving 2FA mechanism.

**Urban 3D Reconstruction Based on Velodyne Laser Scanner** 2014.06-2014.09

- Processed the data from KITTI website and draw point cloud with Opengl based on C++.
- Proposed a method to polygonize the scattered data points and make a volumetric surface reconstruction.

## Publications & Presentations

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- JamCatcher: Mobile Jammer Localization in AMI Networks with Less Observation Nodes (IEEE Transactions on Smart Grid, under review)
- Zhou Zhuang, Xiaoyu Ji, Taimin Zhuang, Juchuan Zhang, Wenyan Xu, Zhenhua Li, Yunhao Liu et al. FBSleuth: Fake Base Station Forensics via Radio Frequency Fingerprinting. ACM AsiaCCS, 2018.

- Zhang, T., Wang, Y., Liang, X., Zhuang, Z., & Xu, W. (2017, May). Cyber attacks in cyber-physical power systems: A case study with GPRS-based SCADA systems. In Control And Decision Conference (CCDC), 2017 29th Chinese (pp. 6847-6852). IEEE.
- Le Tian, Mini Wu, Zhou Zhuang, Qinfen Lu “Analysis and Design of a Linear Oscillatory Motor with moving magnet”, Journal of Mechanical& Electrical Engineering 2015.

## Honors & Awards

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IET <i>Present Around The World</i> Competition China Region Campus Finalist Award	2018
Infineon Scholarship	2017
Award of Honor for Graduate	2017
Graduate of Merit/Triple A graduate	2017
G20 Hangzhou Summit Outstanding Volunteer Award	2017
Excellent Graduate of Zhejiang Province	2016
ChuKochen Honors College Dean scholarship	2016
Meritorious Winner of Mathematical Contest in Modeling (MCM)	2015
First-class academic scholarship for Undergraduate Students at ZJU	2015
First-class outstanding student scholarship for Undergraduate Students at ZJU	2015
Second-class academic scholarship for Undergraduate Students at ZJU	2013&2014
Second-class outstanding student scholarship for Undergraduate Students at ZJU	2013&2014
Honors Excellent Students of Zhejiang University	2013&2014&2015

## Activities

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<b>Overseas Programs</b>	<b>Team Leader</b>	2014.07&2016.02
<ul style="list-style-type: none"> <li>● Participated in program organization, managed task assignment and scheduling of the team in <b>UC Davis</b> and <b>NUS</b>.</li> </ul>		
<b>ChuKochen Honors College Student Union</b>	<b>Vice President</b>	2012.10-2014.10
<ul style="list-style-type: none"> <li>● Led a team (over 30 people) in organizing academic lectures and workshops.</li> <li>● Trained members in service and communication skills, led in seeking and providing consultancy for potential members.</li> <li>● Cooperated with companies for funding.</li> <li>● Ran the student union official website and journalism.</li> </ul>		

## Skills

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### Electrical Techniques:

- Building analog and digital circuit setups.

### Radio Frequency Techniques:

- Proficient in Gnuradio open source project and USRP.

### Computer Programming and Software:

- Code Composer Studio, Android Studio, Linux, C, Python, MySQL, HTML, Matlab, Assembly Language, Java, Multism, Simulink, Pspice, Solidworks, MS Office, Keynote.

### Machine Learning and data mining Skills:

- Experience in lab project and Tianchi AI Competition (Kaggle in China) with common machine learning algorithms.

### Language Skills:

- Chinese (native speaker), English (proficient, TOFEL 103 GRE 330)
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\* Ubiquitous System Security Lab belongs to Electrical Engineering College and we work on universal security area including traditional security, attack/defence and the security of internet of things(IoT). <http://www.usslab.org/member/zhuangzhou.html>.

\*ChuKochen Honors College is only for top students in Zhejiang University who are pursuing advanced and comprehensive education. You can look up detailed information about this college on the website. <http://ckc.zju.edu.cn/>.