ZHENG YUE

05-Oct.-1992, Chinese
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EDUCATION

PhD, School of Electrical and Electronic Engineering (EEE) **Aug. 2015 – Aug. 2019**
Nanyang Technological University (NTU), Singapore
Thesis: PUF-based Solutions to Unification of User, Device, Data Authentication
Research area: Hardware security, Physical Unclonable Functions
CGPA: 4.63/5

Bachelor, School of Communication and Information Engineering **Sept. 2011 - Jul. 2015**
Shanghai University (SHU), Shanghai, China
Major: Communication Engineering
CGPA: 3.88/4 (Ranking: 1/368)

EXPERIENCE

Project Officer, Virtus Lab, School of EEE **Aug. 2019 - Present**
Nanyang Technological University, Singapore
Exchange student, Graduate School of Informatics **Mar. 2019 - Jun. 2019**
Kyoto University, Japan
PUF design, simulation & evaluation in Cadence and Matlab **Aug. 2015 - Present**
Image tampering detection\location implementation in Matlab **Jul. 2018 - Jan. 2019**
User-device authentication scheme implementation in Matlab **Mar. 2018 - Jun. 2019**
Active IC metering implementation in FPGA **Aug. 2017 - Oct. 2017**
An event-driven PUF layout practice **Mar. 2017 - May. 2017**
Teaching assistant **Aug. 2017 - Dec. 2018**
Final Year Project mentor **Aug. 2016 - May. 2019**

AWARDS

(Singapore) Three Minute Thesis competition - **People's Choice Award** **Aug. 2017**
Title: Give your device a fingerprint – the magic of physical unclonable function
(NTU) Three Minute Thesis competition - **People's Choice Award** **Jul. 2017**
Title: Give your device a fingerprint.
NTU Research Scholarship (RSS) **Aug. 2015 – Jul. 2019**
Excellent Graduate Award **Jul. 2015**
National Scholarship (Top 1%) **2014**
Principal Scholarship (Top 3%) **2014**
Principal Scholarship (Top 3%) **2013**
Principal Scholarship (Top 3%) **2012**

SKILLS & LANGUAGE

Skills: Matlab, Cadence (Spectre, OceanScript), Linux, Latex, FPGA, Verilog
Languages: Chinese (Native), English (Fluent in both writing and oral)

HOBBIES

Reading, Bowling, Swimming, Takewon-do (Black-tip)

PUBLICATIONS

Journals:

[1] **Y. Zheng**, X. Zhao, S. Takashi, Y. Cao, and C. H. Chang, “Event-driven dynamic vision sensor based physical unclonable function for camera authentication in reactive monitoring system,” *IEEE Trans. Inf. Forensics, Security*. Sept. 2019 (**Submitted**).

[2] Y. Cao, W. Zheng, X. Zhao, **Y. Zheng**, and C. H. Chang, “A 5 pJ/b 366 μm2 true random number generator based on differential current starved inverter ring oscillators,” *IEEE J. Solid-State Circuits* (**under major revision**).

[3] **Y. Zheng**, Y. Cao and C. H. Chang, "A PUF-based data-device hash for tampered image detection and source camera identification," *IEEE Trans. Inf. Forensics. Security*. Accepted for publication as regular paper in Jul. 2019.

[4] **Y. Zheng**, Y. Cao and C.H. Chang, "UDhashing: Physical unclonable function based user-device hash for endpoint authentication," *IEEE Trans. Industrial Electronics*, Dec. 2019.

[5] A. Cui, C.H. Chang, W. Zhou, **Y. Zheng**, “A New PUF Based Lock and Key Solution for Secure In-field Testing of Cryptographic Chips,” *IEEE Trans. Emerging Topics in Computing*, Accepted for publication as regular paper in May 2019.

Magazine:

[6] C.H. Chang, **Y. Zheng**, and L. Zhang, “A retrospective and a look forward: Fifteen years of physical unclonable function advancement,” *IEEE Circuits and Syst. Magazine*, vol. 17, DOI 10.1109/MCAS.2017.2713305, no. 3, pp. 32–62, 2017**.**

Conferences:

[7] **Y. Zheng,** Y. Cao, and C.H. Chang. "A new event-driven dynamic vision sensor based physical unclonable function for camera authentication in reactive monitoring system," in *Proc. Hardware-Oriented Security and Trust*, DOI 10.1109/AsianHOST.2016.7835551, Yilan, Taiwan, Dec. 2016.

[8] **Y. Zheng**, Y. Cao, and C.H. Chang, “Facial biohashing based User-Device physical unclonable function for bring your own device system (Invited Paper),” in *Proc. IEEE Int. Conf. on Consumer Electronics* (*ICCE 2018*), DOI 10.1109/ICCE.2018.8326074, Las Vegas, US, Jan. 2018.

[9] **Y. Zheng**, S. S. Dhabu, and C.H. Chang, “Securing IoT monitoring device using PUF and physical layer authentication,” in *Proc. 2018 IEEE Int. Symp. Circuits and Syst.* (*ISCAS*), DOI 10.1109/ISCAS.2018.8351844, Florence, May. 2018.

[10] S. S. Dhabu, **Y. Zheng**, and C.H. Chang, “Active IC Metering of Digital Signal Processing Subsystem with Two-Tier Activation for Secure Split Test,” in *Proc. 2018 IEEE Int. Symp. Circuits and Syst*. (*ISCAS*), DOI 10.1109/ISCAS.2018.8351390, Florence, May. 2018.

[11] C. Q. Liu, **Y. Zheng**, C.H. Chang, “A new write-contention based dual-port SRAM PUF with multiple response bits per cell,” in *Proc. IEEE Int. Symp. Circuits and Systems*. (*ISCAS* 2017), DOI 10.1109/ISCAS.2017.8050700, Baltimore, USA, May. 2017.

[12] Y. Cao, C.H Chang, **Y. Zheng,** X Zhao. " An energy-efficient true random number generator based on current starved ring oscillators," *Proc. Hardware-Oriented Security and Trust* (*AsianHOST*), DOI 10.1109/AsianHOST.2017.8353992, Beijing, China, Oct. 2016

[13] B. Wang, X. Zhao, **Y. Zheng**, C.H Chang, "An in-pixel gain amplifier based event-driven physical unclonable function for CMOS dynamic vision sensors," in Proc. 2018 IEEE Int. Symp. Circuits and Syst. (ISCAS), Hokkaiddo, Japan, May. 2018.