Songtao Yang

Personal Data

Name Songtao Yang

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Education

2018 **Ph.D. Computer Science and Technology**, *Tsinghua University*, Beijing, *China*.

2014–2018 **B.E. Computer Science and Technology**, *Tsinghua University*, Beijing, *China*.

2008–2014 **High School**, *The High School Affiliated to Renmin University of China*, Beijing, *China*.

Projects

Security Researches

2019–PRESENT **Binary Pointer Profiling and Infoleak Detection**.
Current work.

2017–2018 **Feedback-based Network Intrusion Detection Sampling**.
Sampling detection of network traffic to speed up traditional NIDS, based on Intel DPDK. Introduces bit characteristics processing of typical attacks and the packet scoring mechanism.

2017 **IPC Firmware Vulnerability Exploration**.
Reverse engineering the firmware of TP-LINK webcams. Loaded self-made malicious firmware to TL-SC3130G remotely through found vulnerabilities.

Hardware Engineering

2016 **Five-Stage Pipeline CPU on FPGA for Trimmed MIPS16**.
22.5 MHz CPU VHDL project on Xilinx SPARTAN-3E. Supports VGA, PS2 and Flash.

Software Engineering

2015–PRESENT **Maintainer of Student Tsinghua Services**.
Technical team of Tsinghua University Youth League Information Center. Service architecture designer and backend developer of activity topics.

Skills

System Analysis Tools

Binary	Angr, KLEE, PANDA	Program	LLVM
Fuzzing	AFL, Syzkaller	Hardware	Intel PT, Intel SGX

Computer Science

Languages	C/C++, Python, Java, Go, Rust	Utilities	Linux, Docker, Git, Node
Subjects	Composition, DS, ML		

Soft Skills

Team Work	Communications and negotiations	Publicity	Academic writing

Awards

2017 **iCenter Artificial Intelligence Challenge**, *Tsinghua University*.
Held together with Microsoft Azure. KG based on Azure NLP. Best Technology Award.

2016, 2018 **Outstanding Student Leaders**, *Tsinghua University*.

2016–2019 **Social Work Excellence Scholarship**, *Tsinghua University*.

Interests

Table tennis, jogging, swimming, gobang, chess.

Play the erhu, write tiny melodies. Reading novels and autobiographies. Pwn.