Sun, Jingdong

4000 Enterprise Dr
EMC Lab, Missouri S&T
Rolla, Missouri, 65401

Telephone: (+1) 310-666-2890
Email: sunjing@mst.edu
LinkedIn: www.linkedin.com/in/sunjd

EDUCATION

Missouri University of Science & Technology (Missouri S&T) *Aug. 2016-Present*
Ph.D. Candidate in Electrical and Computer Engineering GPA: 4.0/4.0

Missouri University of Science & Technology (Missouri S&T) *Aug. 2014-May. 2016*
M.S. in Electrical and Computer Engineering GPA: 4.0/4.0

Huazhong University of Science & Technology (HUST) *Sept. 2010-Jun. 2014*
B.S. in Electronics and Information Engineering (Honor Program) GPA: 3.7/4.0

HORNORS AND AWARDS

Best Student EMC Hardware Design Award *Mar. 2015*
First Author. Granted by IEEE Electromagnetic Compatibility Society.

Exceptional Performance in the International EM Proficiency Test *Oct. 2014*
Executed by National Taiwan University & TEMIAC
Top 4% among 265 exam takers from Japan, HK, Korea, Taiwan, and U.S.

Graduate Research Assistant Scholarship *Sept. 2014*
Full research scholarship granted by EMC Laboratory, Missouri S&T.

National Prize in Mathematical Contest CUMCM *Sept. 2012*
Contemporary Undergraduate Mathematical Contest in Modeling
Top 5% among all the participates from China, Singapore, and U.S.

WORKING EXPERIENCE

ConvenientPower Systems (CPS), Leading in Wireless Charging *Apr. 2017-Aug. 2018*
Manager, RX System Group (14 members) *Chengdu, China*

- IC-based wireless power receiver solutions for mobile phones & accessories.
- Definition and system-level development for multiple wireless charging receiver ICs.
- **CPS Wireless Charging Case for Meizu POP TWS Earphones**, Project Lead
  World's 1st earphones product certified by WPC Qi standard. Developed the minimum wireless power receiver solution with the most compact magnetic coil design for tiny form-factor device.
- **CPS Wireless Charging Function Integration for Gionee M7P Phone**, Project Lead
  In-depth integration of wireless charging function on mechanical structure, hardware, driver and manufacturing test setup. Launched the 1st 10W fast wireless charging phone in China.

H3C Technologies Co., Ltd. *May. 2011-Jan. 2013*
Software Engineer *Wuhan, China*

- Software development (C/C++) in user space and kernel for H3C Comware platform.
- Implementation of common protocols, including ICMP, UDP, TCP, FTP, HTTP, DHCP, etc.
- **H3C PPPoE Server Development Project**, Technical Lead
  Implement the PPP protocol over the local Ethernet on the H3C Comware V7 distributed platform, including kernel architecture and user space application design.

- **H3C Network Quality Analyzer Development Project**, Core Member

  Using probes and traces to collect statistical and historical information for the routers connected to the Internet, and analyze the network quality based on multiple network protocols.

PUBLICATIONS

Guangyao Shen, Sen Yang, **Jingdong Sun**, Shuai Xu, David J. Pommerenke, and Victor V. Khilkevich. "Maximum Radiated Emissions Evaluation for the Heatsink/IC Structure Using the Measured Near Electrical Field." IEEE Transactions on Electromagnetic Compatibility 59, no. 5 (2017): 1408-1414

Jonghyun Cho, **Jingdong Sun**, Heegon Kim, Jun Fan, Yanling Lu, Siming Pan. "Coil design for 100 KHz and 6.78 MHz WPT system: Litz and solid wires and winding methods." In Electromagnetic Compatibility & Signal/Power Integrity, 2017 IEEE International Symposium on, pp. 803-806.

Chen Tian, **Jingdong Sun**, Weimin Wu, Yan Luo. "Optimal bandwidth allocation for hybrid Video-on-Demand streaming with a distributed max flow algorithm." Computer Networks 91 (2015): 483-494.

Junhua Yan, Chen Tian, **Jingdong Sun**, and Hanzi Mao. "Improve distributed client lifecycle control in shadowstream." International Journal of Web Services Research (IJWSR) 11, no. 4 (2014): 62-78.

Hanzi Mao, Chen Tian, **Jingdong Sun**, Junhua Yan, Weimin Wu, and Benxiong Huang. "Shadow VoD: performance evaluation as a capability in production P2P-CDN hybrid VoD networks." In 2014 IEEE 11th Intl Conf on Ubiquitous Intelligence and Computing, and IEEE 11th Intl Conf on Autonomic and Trusted Computing, and IEEE 14th Intl Conf on Scalable Computing and Communications and Its Associated Workshops (UTC-ATC-ScalCom), pp. 771-776. IEEE, 2014.

CONFERENCE PRESENTATIONS

Talk. "Study and Simulation of HPM Effects on Semiconductor Device using Monte Carlo Method". Center for Electromagnetic Compatibility (CEMC) IAB Meeting. Nov. 2016.

Poster. "Designing a 40GHz Automated Channel Emulator Based on MEMS Switch". Center for Electromagnetic Compatibility (CEMC) IAB Meeting. Nov. 2014.

RESEARCH AND PROJECTS

Simulation of HPM / ESD Effects on Semiconductor Device *Sept. 2016-Apr. 2017*
Research Project in EMC Laboratory *Missouri S&T*

- Analyzed the device physics of failures caused by HPM / ESD injections.
- Predicted the upset events in a particle-level perspective using Monte Carlo method.

Resonance Wireless Power System for Multiple Receiver Devices *May. 2015-Apr. 2016*
Prototype demo in the CES, Las Vegas, 2016 *Missouri S&T*

- Implemented both hardware and software of a WPT system based on A4WP standard.
- Capable of charging two phones simultaneously with adaptive efficiency optimization control.

Automated Channel Emulator Based on MEMS Switch *Sept. 2014-Apr. 2016*
M.S. Thesis *Missouri S&T*

- Designed multiple high-frequency transmission line channels with different loss levels.
- Integrated MEMS switch for channel selection by an embedded system running Python.

Wireless Smoke Detection Based on Structure Similarity of Video *Feb. 2014-Jun. 2014*
B.S. Thesis *HUST*

- Designed the smoke detection algorithm using structure similarity of video frames.
- Implemented the hardware and software of the WiFi-UART module to transmit smoke alarm.

Optimal Bandwidth Allocation Algorithm for VoD Streaming *Nov. 2013-Nov. 2015*
Research Project in NEST Lab *HUST*

- Developed an optimal bandwidth allocation topology for hybrid VoD streaming.
- Novel *Demand Driven Max-Flow* formulation and distributed *Free-for-All Push-Lift* algorithm.

Huawei Heat Sink / IC Field Transformation *Jul. 2013-Oct. 2013*
Intern Project in EMC Laboratory *Missouri S&T*

- Constructed an equivalent field source by the near-field scanning technique.
- Developed and validated a far-field transformation procedure for the heat sink / IC structure.

Open-Source Mirror Site in Central China *Feb. 2013-June. 2013*
Technical Lead *HUST Network Center*

- The 1st and largest open-source mirror site in Central China. Completed the rsync synchronizing script (bash), the status updating script (Perl), and the front-end web page (HTML/PHP/Javascript).

SKILLS

Hardware
Schematic, PCB layout, embedded system
ARM, FPGA, Xilinx Zynq, Intel Galileo

Software
C/C++, Perl, Python, Matlab, HTML/CSS, PHP,
Javascript, TCL/Tk, Verilog, Vim/Emacs, LaTex

Measurement
Oscilloscope, VNA, SA, TDR measurement
Near-field scanning, and micro-probing

Simulation
RF simulation: HFSS, CST, EMC Studio
Circuit simulation: ADS, HSPICE

Last updated: November 16, 2018