
Education

University of Illinois, Urbana-Champaign (UIUC) Urbana, IL
MS/PhD, Electrical and Computer Engineering (GPA: 3.95/4.0) Expected May 2021
University of Science and Technology of China (USTC) Hefei, China
BS, Applied Physics (GPA: 3.81/4.3) Jun 2016
Minor: Computer Science & Technology

Employment

Cadence Design Systems San Jose, CA
Software Engineer Intern May-Aug 2018

- ESD simulation approaches in SPECTRE; ESD device modeling

Dept. of Electrical and Computer Engineering, UIUC Urbana, IL
Teaching Assistant for ECE 482, Digital IC Design Aug-Dec 2017

GLOBALFOUNDRIES Burlington, VT
ESD Device Design and Characterization Intern May-Aug 2017

- Study of ESD Design Window Scaling across multiple technologies

Research Experience

Dept. of Electrical and Computer Engineering, UIUC Urbana, IL
Graduate Research Assistant in Prof. Elyse Rosenbaum's team Aug 2016-Present

- Computationally-efficient simulation of circuit aging through machine learning
Modeling the circuit aging effect with recurrent neuron networks
- Models to enable system-level electrostatic discharge (ESD) analysis
Enhanced the quasi-static I-V model of an IC pin using kernel regression
Augmented the ESD source model with S-parameters

State Key Laboratory of Particle Detection and Electronics, USTC Hefei, China
Research Assistant in Fast Electronics Lab Sep 2014-Jun 2016

- Design of a FPGA-based data readout module for the test of waveform digitation ASICs
- Evaluation and Test of 6-channel PMT readout ASIC based on time discrimination and shaping

School of Physics, University of Western Australia (UWA) Perth, Australia
Exchange student in UWA-China Research Training Program Jul-Aug 2015

- Detection of gravitational waves with pulsar timing arrays
Applied Particle Swarm Optimization in the existing methodology

Publication

- J. Xiong, Z. Chen, Y. Xiu, Z. Mu, M. Raginsky and E. Rosenbaum. Enhanced IC modeling methodology for system-level ESD simulation. 2018 EOS/ESD Symposium.
- A. Dong, J. Xiong, S. Mitra, W. Liang, R. Gauthier Jr, A. Loiseau, Comprehensive Study of ESD Design Window Scaling Down to 7nm Technology Node. 2018 EOS/ESD Symposium.
- X. Zhu, L. Wen, J. Xiong, et al. Detection and localization of continuous gravitational waves with pulsar timing arrays: the role of pulsar terms[J]. Monthly Notices of the Royal Astronomical Society, 2016.

Technical skills

Hardware: TLP generator, Probe station, Oscilloscope, Network analyzer, PCB assembly, FPGA evaluation board.
Software: Cadence (Virtuoso, Sigrity), ADS, Ansys (HFSS, Q3D), Sentaurus TCAD, ModelSim, AutoCAD, Origin.
Language: MATLAB, C, Verilog A, Python.

Advanced Coursework

Physics & Modeling of Semiconductor Devices Control System Theory & Design Random Process
EM Waves & Radiating Systems Uncertainty Quantification Numerical Circuit Analysis