

Qiaochu Zhang¹

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EDUCATION

University of Southern California	Aug. 2017-Present
PhD Graduate Student in Electrical Engineering, GPA: 3.93/4.00	
Fudan University	Sept. 2013-Jun. 2017
Bachelor of Science in Physics, Ranking: 2/121, Total GPA: 3.72/4.0, Major GPA: 3.87/4.0	
University of California, Berkeley	Aug. 2015-Dec. 2015
Exchange Student, Total GPA: 3.96/4.0, Major GPA: 4.00/4.0	

PEER REVIEWED PUBLICATIONS

- **Qiaochu Zhang**, S. Su, C.-R. Ho, M. S.-W. Chen, “A Fractional-N Digital MDLL With Background Two-Point DTC Calibration”, *IEEE Journal of Solid-State Circuits*, 2021
- **Qiaochu Zhang**, Shiyu Su, Cheng-Ru Ho, and Mike Shuo-Wei Chen, “A Fractional-N Digital MDLL with Background Two-Point DTC Calibration Achieving -60dBc Fractional Spur”, *IEEE International Solid-State Circuits Conference (ISSCC)*, Feb. 2021
- **Qiaochu Zhang**, Shiyu Su, Juzheng Liu, and Mike Shuo-Wei Chen, “CEPA: CNN-based Early Performance Assertion Scheme for Analog and Mixed-Signal Circuit Simulation”, in *IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, Nov. 2020
- Shiyu Su, **Qiaochu Zhang**, Juzheng Liu, Mohsen Hassanpourghadi, Rezwana Rasul, and Mike Chen, “TAFAs: Design Automation of Analog Mixed-Signal FIR Filters Using Time Approximation Architecture”, in *IEEE/ACM 27th Asia and South Pacific Design Automation Conference (ASP-DAC)*, Jan. 2022
- Juzheng Liu, Mohsen Hassanpourghadi, **Qiaochu Zhang**, Shiyu Su, and Mike Shuo-Wei Chen, “Transfer Learning with Bayesian Optimization-Aided Sampling for Efficient AMS Circuit Modeling”, in *IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, Nov. 2020
- Mohsen Hassanpourghadi, Shiyu Su, Rezwana Rasul, Juzheng Liu, **Qiaochu Zhang**, and M. S.-W. Chen, “Circuit Connectivity Inspired Neural Network for Analog Mixed-Signal Functional Modeling”, in *2021 58th ACM/EDAC/IEEE Design Automation Conference (DAC)*, Dec. 2021
- Juzheng Liu, Shiyu Su, Meghna Madhusudan, Mohsen Hassanpourghadi, Samuel Saunders, **Qiaochu Zhang**, Rezwana Rasul, Yaguang Li, Jiang Hu, Arvind Kumar Sharma, Sachin S. Sapatnekar, Ramesh Harjani, Anthony Levi, Sandeep Gupta and Mike Shuo-Wei Chen, “From Specification to Silicon: Towards Analog/Mixed-Signal Design Automation using Surrogate NN Models with Transfer Learning”, in *IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, Nov. 2021
- Mohsen Hassanpourghadi, **Qiaochu Zhang**, Praveen Sharma, Jaewon Nam, Shiyu Su, Subhjit Chowdhury, Jagannathan Sathyamoorthy, Walter Unglaub, Fangzhou Wang, Mike Chen, Sandeep Gupta, Anthony Levi, Wes Hansford, William Taylor, “Automated Analog Mixed Signal IP Generator for CMOS Technologies”, in *Government Microcircuit Applications and Critical Technology Conference (GOMACTECH)*, 2019.
- Wu Zan, **Qiaochu Zhang**, Hu Xu, Fuyou Liao, Jing Wan, Jianan Deng, Hao Zhu, Lin Chen, Qingqing Sun, Shijin Ding, Peng Zhou, Wenzhong Bao and David Wei Zhang, “Large Capacitance and Fast Polarization Response of Thin Polymer Electrolyte Dielectrics by Spin-Coating for Two Dimensional MoS₂ Devices”, *Nano Research*, Dec. 2017
- Xiongfei Song, Zhongxun Guo, **Qiaochu Zhang**, Peng Zhou, Wenzhong Bao and David Wei Zhang, “Progress of Large-Scale Synthesis and Electronic Device Application of Two-Dimensional Transition Metal Dichalcogenides”, *Small*, Jul. 2017

¹ Male

RESEARCH EXPERIENCE

Research Assistant, Dept. of ECE- Electrophysics, USC. Advisor: Dr. Mike Shuo-Wei Chen

- Low jitter and low spur digital phase-locked loop design
- DSP-assisted and reconfigurable integrated mixed-signal systems.
- Machine-learning based design automation for analog and mixed signal circuits, including circuit simulation, design parameter optimization, and physical layout

Research Assistant, State Key Lab of ASIC & Systems, Fudan University. Advisor: Dr. Wenzhong Bao

- High performance MoS₂ transistor fabrication with ionic thin film electrolyte
- Device physics theory of MoS₂ transistor

WORK EXPERIENCE

4+ years' experience of integrated circuits/systems design and test. 4+ years' experience of analog CAD tool development. Projects are sponsored by

- Defense Advanced Research Projects Agency (DARPA), POSH Project, 2018-present
- National Science Foundation (NSF), SpecEES project, 2018-present

HONORS AND AWARDS

- 2021-2022 Ming Hsieh Institute PhD Scholar, University of Southern California
- Provost's Fellowship (2017-2020), University of Southern California
- Top Student in National Talented Student Training Program in Basic Disciplines, Ministry of Education, People's Republic of China
- Outstanding Graduate in the class of 2017, Fudan University
- Honor Student, 2015-2017, Fudan University
- HK Caring Sponsored Scholarship, Fudan University

TEACHING EXPERIENCE

- Teaching Assistant, EE536B Advanced Mixed-Signal Circuit Design, Dept. of ECE, USC

ACADEMIC SERVICE

- Reviewer, IEEE Journal of Solid-State Circuits
- Reviewer, IEEE Transaction on Circuits and Systems I: Regular Papers
- Reviewer, IEEE Transaction on Circuits and Systems II: Express Briefs
- Reviewer, IEEE Solid-State Circuits Letters
- Reviewer, IEEE Access.
- Student Host and Organizer, Ming Hsieh Institute Seminar Series on Integrated Systems, USC, Fall 2021
- Organizer, Ming Hsieh Institute Research Festival, USC, Fall 2021
- Mentor, USC-Tsinghua undergraduate researcher program, Summer 2019
- Major contributor, USC POSH open-source IP and CAD tool repository on GitHub

SELECTED TALKS

- "Towards more efficient analog and mixed-signal circuits: architecture and optimization innovations", Ming Hsieh Institute, USC
- "Analog and mixed-signal parameter search engine", EE536B class, USC