Yuyi Shen

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Education

Ph.D. in Electrical and Computer Engineering Expected: May 2025
Carnegie Mellon University, Pittsburgh, PA
Bachelor of Science in Electrical and Computer Engineering May 2020
Carnegie Mellon University, Pittsburgh, PA

Relevant Coursework

18-723 RF IC Design and Implementation
18-725 Advanced Digital Integrated Circuit Design

Skills

General	Circuit Design Tools	Characterization Equipment
Python	Virtuoso	Vector network analyzers
Matlab	Advanced Design System	Spectrum analyzers
Kicad	HSPICE	RF probe stations

Work Experience

CMU Energy-Efficient Circuits and Systems Lab Pittsburgh, PA
Graduate Research Assistant Fall 2020-Present

- Designed Class-E and F PAs in 65 nm CMOS to generate training data for RF fingerprinting study
- Taped out Class-E PA integrating combinatorial randomness in support of transmitter identification project

Apple Inc. Fremont, CA
Custom Circuit Design Intern Summer 2020

- Worked remotely in Digital Circuits Group to evaluate different sense amp types for improving PPA

Carnegie Mellon University PMaNS Lab Pittsburgh, PA
Undergraduate Research Assistant Fall 2017-May 2020, Summer 2019

- Assisted with layout, fabrication, and troubleshooting of 70 H-bridge PCB for driving electro-permanent magnets
- Designed and prototyped buffered VHF oscillator circuit for demonstrating MEMS resonators
- Characterized MEMS devices (resonators and delay lines) with RF probe stations
- Investigated electronic frequency comb generation with LOBAR phase modulators

S&C Electric Company, Alameda, CA
Summer Intern Summer 2018

- Applied magnetic saturation models to secondary injection testing with overcurrent protection relay

Publications

X-Cut Lithium Niobate-Based Shear Horizontal Resonators for Radio Frequency Applications, *IEEE/ASME Journal of Microelectromechanical Systems* (2020), 1464-1472.
DOI: https://doi.org/10.1109/JMEMS.2020.3026167

Projects

10-bit SAR ADC, Advanced Digital Integrated Circuit Design Spring 2020

- Collaborated with two master's students to tape out 10-bit differential SAR ADC in 28 nm process

Honors

Analog Devices Outstanding Student Designer Award, CMU: 2021
Carnegie Institute of Technology Dean's Fellow: 2020
Dean's List, College of Engineering: Fall 2016-Spring 2020