

YUAN-CHUN LUO

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RESEARCH INTEREST

Solid State Devices

SUMMARY

Multiple award winner in both project contest and academic performance.

Co-author of two research papers finished during undergraduate years.

Leader of student teams to organize student events with more than 200 participants.

EDUCATION

National Tsing Hua University (NTHU), Hsinchu, Taiwan

Sep. 2014 - Jun. 2018

B.S., Electrical Engineering (EE)

Overall GPA: 4.07/4.3 (3.93/4)

SELECTED HONOR AND AWARD

Champion, Contest of implementation with more than 100 student competitors. *EE, NTHU, 2018*

Runner up, Contest of implementation with more than 250 student competitors. *EECS, NTHU, 2018*

Excellent-EECS student award for top 10% of all students. *EECS, NTHU, 2017*

Oversea exchange student scholarship with USD 3100. *EE, NTHU, 2016*

Outstanding academic achievement for top 5% of all students. *EE, NTHU, 2015*

RESEARCH EXPERIENCE

Research Assistant, Emerging Devices and Technology Lab

Oct. 2017 - present

EE, National Chiao Tung University (NCTU), Hsinchu, Taiwan

- Advised by Prof Steve S. Chung.
- Measure and derive negative capacitance(NC) values in NC FinFETs to further maximize the capacitance values and minimize hysteresis which adds complexity into later circuit design.
- Build C++ codes to efficiently analyze data from measurement.
- Verify RF characteristics for FinFETs using the simulation tool, TCAD.

Research Assistant, THz Optoelectronic Devices Lab

Jun. 2017 - Jun. 2018

EE, NTHU

- Advised by Prof Shang-Hua Yang.
- Designed THz optoelectronic devices and arrays using the simulation tool, COMSOL Multiphysics, and the software, Matlab.

Research Assistant, SSD LAB

Sep. 2016 - Aug. 2017

EE, NTHU

- Advised by prof Ren-Shuo Liu.
- Achieved run-time power-accuracy tunability for a low-cost and adaptive Convolutional Neural Net model suitable for various edge devices with artificial-intelligence (AI) applications.

LEADERSHIP & TEAMWORK

President, Student Association
EE, NTHU

Jun. 2016 - Jun. 2017

- Built a 20-student team to receive students and an advisor from City University of Hong Kong.
- Arranged undergraduate-project contests with six professors as judges for over 100 student participants.
- Organized Christmas party for more than 200 students from four different departments.

PUBLICATION

New Experimental Approaches to Extracting Negative Capacitances of 14nm NC-FinFET in Exploration of Short-channel & Body Effect to Achieve Free Hysteresis.

- 2018 SSDM(accepted)
- **Y.-C. Luo**, E-R. Hsieh, J.-R. Su, S.S. Chung

DrowsyNET: Convolutional Neural Networks with Runtime Power-Accuracy Tunability Using Inference-Stage Dropout.

- 2018 VLSI-DAT
- R.-S. Liu, Y.-C. Lo, **Y.-C. Luo**

SELECTED COURSE PROJECT

VLSI, Memory System Circuit Design Project
EE, NTHU

Jun. 2016

- Completed circuit design, pre-sim, layout, and post-sim of a memory system.

Semiconductor Microwave Electronic Devices, Term Paper
EE, NTHU

Jun. 2016

- Investigated into silicon based RF semiconductor devices in recent 10 years.

Computer Architecture, Assembly Code Project
EE, NTHU

Jun. 2016

- Wrote and compared MIPS assembly codes and C++ codes performing iterative method, recursive method, and tail recursion.

– RELEVANT COURSES

Core Courses

ULSI Technology (A+, graduate level)
Semiconductor Microwave Devices (A+, graduate level)
Introduction to Solid-State Physics (A+)
Introduction to Solid-State Electronic Devices (A+)
Introduction to Integrated Circuit Design (A+)

Other Courses

Data Structure (A+)
Electromagnetic Waves (A+)
Feedback Control Systems (A+)
Computer Architecture (A+)
Modern Physics (A+)

SKILLS

Languages

English(GRE 331, TOEFL 105), and Mandarin(Native)

Software Languages

C++, Matlab, and Python

Hardware Languages

Verilog, Hspice, and Laker

Simulation Tools

COMSOL Multiphysics, and TCAD