# Minh Nguyen

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## EDUCATION

**TEXAS TECH UNIVERSITY**
M.S IN ELECTRICAL ENGINEERING
August 2016 - Present
Lubbock, Texas
Current GPA: 4.0

**DANANG UNIVERSITY (DUT)**
B.S IN ELECTRICAL ENGINEERING
August 2009 - August 2014
Danang, Vietnam
Cum. GPA: 3.61 / 4.0 (Valedictorian)

## COURSEWORK

Communication IC Design
Modern Communication Circuits
Modern Radar Circuits and Systems
Analog IC Design
Microwave Engineering
Advance Digital IC design

## SKILLS

**TOOLS**
Cadence• Galaxy Custom Designer• HSPICE• VCS• Star RC AWR• ADS• FPGA

**PROGRAMING LANGUAGES**
C• C++• Java• Verilog
Perl• Tcl• Linux• Matlab
C#• Javascript

## REFERENCES

**PROF. CHANGZHI LI** | TTU
changzhi.li@ttu.edu
**PROF. TUAN PHAM** | DUT
pvtuan@dut.udn.vn
**MR. GIANG NGUYEN** | UNIQUIFY
giangn@uniquify.com
**MR. CUONG NGUYEN** | VEF
cuongnguyen@vef.gov

## SUMMARY

I am a Master student at the Texas Tech University. My research focus on Analog/RF Integrated Circuit Design. I have 2 years working experiences in Analog Design. I am also interest in Analog Mixed Signal and Radar Design.

## WORKING EXPERIENCES

**UNIQUIFY** | ANALOG DESIGN ENGINEER
June 2014 – June 2016 | Danang, Vietnam
- Developing and Verifying DDR3 and DDR4 of SDRAM IO circuits using 28nm, 40nm and 55nm technology.
- Training new engineers for CMOS background, programming with PERL, TCL, and Linux Environment
- Smic40nm ddr3 ddr4
  Designing Voltage Reference circuit for SDRAM IO using 40nm technology
- Tsmc28hpc ddr3 ddr4
  Implementing a Finite State Machine for Calibration Circuit using Verilog and Verilog Analog
- Tsmc40g ddr3l
  Simulating and verifying full byte lane for DDR3L IO circuit
- Smic55nm ddr34
  Setup Ultrasim tool for checking EMIR of DDRIO circuit

**ESILICON** | ENGINEERING INTERN
November 2013 – April 2014 | Danang, Vietnam
- Researching in SRAM design using 40nm Technology
- Designing Pseudo-2-ported Register File using 28nm Technology (B.S Thesis)

## PROJECTS

**DESIGN RADAR AND ULTRASOUND SYSTEM FOR HUMAN COMPUTER INTERACTION (M.S THESIS)**
June 2017 - Texas Tech University - Supervised by Prof. Changzhi Li
Designed a hybrid system using FMCW radar (TI AWR1443) work at 77 GHz and ultrasound system work at 40kHz. The radar can detect hand movement and control computer. The system can detect waving hand left, right, up, down, single tap, double tap. The ultrasound will detect at near distance (<30 cm) and radar detect at far distance (30 cm < l < 120 cm)

**DESIGN FMCW RADAR**
March 2017 - Texas Tech University - Supervised by Prof. Changzhi Li
Designed FMCW radar work at 5.8 GHz. The radar can measure distance, velocity and radar imaging using SAR within the range of 30m.

**DESIGN VOLTAGE CONTROL OSCILLATOR**
March 2017 - Texas Tech University - Supervised by Dr. Michael Helm
Designed VCO work at 20 MHz, The VCO also stabilized and lock at 20 MHz

**DESIGN A FEED NETWORK FOR A LINEAR FOUR-ELEMENT ANTENNA ARRAY**
December 2016 - Texas Tech University - Supervised by Prof. Mohammed Saed
The feed network designed for schematic and layout with a coupled-line coupler, reflection type phase shifters, and unequal split power dividers.

## DIFFERENTIAL AMPLIFIER WITH COMMON MODE FEEDBACK

December 2016 - Texas Tech University - Supervised by Prof. Changzhi Li

To eliminate the mismatch of differential amplifier during manufactured. The common mode feedback (CMFB) was used in the design of fully-differential amplifiers

## SRAM 128X128 6TCELL FET POWER AND SPEED COMPARISONS

December 2016 - Texas Tech University - Supervised by Dr. Tooraj Nikoubin

Designed SRAM using 6 transistors, decoder, sense amplifier, read circuitry, write circuitry with 14nm technology and 7nm technology of FINFET

## DESIGN A TRIPLEXER USING FILTERS

November 2016 - Texas Tech University - Supervised by Prof. Mohammed Saed

Designed a triplexer from diplexer and low pass filter. Diplexer use 2 bandpass filters, one is coupled lines filter and one use capacitively coupled short-circuited shunt stubs

## DESIGN PSEUDO 2-PORTED REGISTER FILE USING 28NM TECHNOLOGY (B.S THESIS)

April 2014 – Danang University of Technology - Supervised by Prof. Pham Van Tuan, Mr. Ho Bao Trung

Designed a 2-port register file using pseudo mechanism, which had capability to handle both read and write request in one system clock cycle while keeping the number of transistor in each memory cell is 6 transistors

## TEXAS INSTRUMENT CONTEST DESIGN: DESIGN WIRELESS SENSOR NETWORK USING MSP430

August 2013 – Danang University of Technology - Supervised by Prof. Pham Van Tuan, Mr. Ho Bao Trung

Designed a MSP430G2553-based system wireless sensor network to obtain environment parameters, control, and store data in greenhouse.

## SMART GREENHOUSE

March 2013 - Danang University of Technology - Supervised by Dr. Nathaniel Mcvicar, Mr. Nguyen Trung Kien

Designed a smart system could measure environment parameters through sensors andcontrol subsystem like watering, lighting and heating system to maintain greenhouse environment characteristics.

## DESIGN VIDEO GAME BASED ON FPGA

December 2012 - Danang University of Technology - Supervised by Prof. Pham Van Tuan, Mr. Nguyen Trung Kien

Designed a classical video game name "Battleship" by using Verilog. Designed game graphic with ship models, bullets, background and controlled the ship models by keyboard. Used finite state machine to switch stages of the game.

## AWARDS

2018    Graduate Student Research Award by Texas Tech University
2016    Vietnam Education Foundation Fellowships by U.S Government
2014    Valedictorian of Danang University in Electrical Engineering
2013    Third prize at the Vietnam Texas Instrument University MCU Design Contest
2013    The Engineering and Technology Scholarship
2013    The Ordon Vallet Scholarship
2012    The second prize in physics at the excellent student exam
2011    The Intel Vietnam Engineering English Scholarship