Curriculum Vitae

Hanqing, ZHU

Shanghai Jiao Tong University

Microelectronics science and technology

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EDUCATION

School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University   **Sept** 2016- **Jul** 2020

B.E. in Microelectronics science and technology

Zhiyuan Honors Program of Engineering (an elite program for top 10% students in SJTU)

Major GPA: 89.25/100, Overall GPA: 89.12/100, Advanced GPA (for last four semesters): 91.65/100

Ranking: 2/57

Core Courses: Circuit Theory (94), Probability and Statistics (100, rank 1st), Signals and Systems (95, rank 1st), Design of Digital Integration Circuits (94, rank 1st), Chip Design Methodology for Advanced Logic System (91, rank 1st), Digital Signal Processing (99, rank 1st), Computer Processors and System(89)

Peter the Great St. Petersburg Polytechnic University, Russia   **Aug** 2018- **Sept** 2018

Summer School (fully English) focusing on Information Technology Module (Modern SAP Technologies)

Modern SAP Technologies and Russian Course

Course Garde: 98/100

University of Texas at Austin, USA   **July** 2019- **Oct** 2019

Summer Research Program, supervised by Professor David. Z. Pan, IEEE fellow & SPIE fellow, Department of Electric and Computer Engineering

Honors & Awards：

Outstanding undergraduate scholarship funded by Fontile Education Fund (Awarded to only 5 students)	**2019**
The Samsung Scholarship (2%, only one in our department, university-wide)	**2018**
The First Prize Scholarship (top 3%)	**2017&2018**
Zhiyuan College Honors Scholarship (Top 10% students of Shanghai Jiao Tong university)	**2016**
Excellent league cadre of Shanghai Jiao Tong University	**2019**
The scholarship for academic progress	**2018**
First Prize in China Undergraduate Mathematical Contest in Modeling, Shanghai Division (CUMCM)	**2018**
Full scholarship for summer school of SPbPU (one of the only two students in China)	**2018**
"Color for love" bronze prize of Chinese college students' rural supporting education	**2017**

RESEARCH EXPERIENCES

Wireless thin – film Antenna on Turbine Blade Surface Design: SJTU Undergraduate Participation in Research Program (PRP)

Research Assistant   **Sept** 2017 -**Oct** 2018

Advisor: Li Duan, professor of Ministry of Education Key Laboratory of Thin Film and Microfabrication Technology, SJTU

➢ Designed and fabricated three integrated antennas with the logo of Shanghai Jiao Tong University with a maximum size of 22mm and lowest echo lost -21.93dB

➢ Analyzed the collected data and extracted relationship between basic parameters and characteristic performance

➢ Found the interactive superposition effect between multiple integrated antennas by studying the fluence of common ground or not

➢ A paper submitted to <<Journal of Shanghai Jiao Tong University >>

Low complexity MIMO detection algorithm optimization with DL network and VLSI implement

Research Assistant   **Oct** 2018-Present

Advisor: Guanghui He, associate professor of School of Microelectronics, SJTU

➢ Concentrating on how to apply DL methods to large-scale MIMO system especially in Detection

➢ Try optimizing traditional MIMO detection Algorithm mainly on MPD algorithm to get a low BER performance and fast convergence rate aided by Deep Learning methods

- ➢ Propose some simplify methods to reduce the algorithm complexity especially aided by neural networks
- ➢ Further realize VLSI implement using our proposed algorithm

A new algorithm implementation used for Partition methodology in Electrical Design Automation

Research Assistant   **July 2019 – Oct 2019**

Advisor: David. Z. Pan, professor, IEEE fellow & SPIE fellow, Department of electrical and computer engineering

- ➢ Proposed a new heuristic mechanism used for Graph/Hypergraph Partitioning Problem based on

LEADERSHIP AND ACTIVITIES

Siyuan Commonweal Organization |Shanghai Jiao Tong University| Project director   **Sept** 2017 – **July** 2019

- ➢ Efforts to improve education quality of life in China's poorest places
- ➢ Responsible for the Rural Support Education Program in SJTU
- ➢ Chaired three support education seminars and more than thirty interviews to select about 110 volunteer teachers
- ➢ Established collaboration with three new support schools and offered free summer class for more than 700 students in rural China in 2018

Supporting Education volunteer | Yunnan Province | Team member   **Aug** 2017- **Sept** 2017

- ➢ Responsible for the investigation about traditional Chinese villages and cultural heritage by the national ministry of housing and urban-rural development
- ➢ Offered complete survey on the local village and gave advice on how to develop the local economy
- ➢ Offered more than 30 kinds of class for 113 students and involved the Themes-Based-Teaching class into teaching
- ➢ Awarded with "Color for love" bronze prize of Chinese college students' rural supporting education for extraordinary volunteer performance

SKILLS AND PROJECTS EXPERIENCE

CNN-Classification on FPGA | Course project |

- ➢ Reproducing a fast FPGA prototyping framework for high performance CNN deployment on PYNQ platform and making some improvement
- ➢ Transplanting the PYNQ to the ZYNQ-7000 and implement basic functions using Python directly by Jupyter Notebook
- ➢ Skilled in high level synthesis (HLS) tools and FPGA development boards

Others:

Tools for Microelectronics: Cadence and Hspice basic tools, Xilinx FPGA board development tools

Programming Languages: python, C++, MATLAB, Verilog, CUDA

Other Applications: Origin