Yue Zhu

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Email: zy991221@gmail
Research Interests: Internet of Things, Computer Human Interface, Robot, Control

EDUCATION

ShanghaiTech University (SHTU), School of Information Science and Technology (SIST) *Aug 2017 - Present*
B.E. in Electronic Information Engineering (Expected in July 2021)
GRE: Verbal - 152 (53% percentile) Quantitative - 170 (96%) Analytical Writing - 3.0
Relevant Courses: Introduction to Embedded Systems, Mechanical Design, Introduction to Communication Systems, Web and Text Mining, FPGA-based Hardware System Design, Introduction to Control, Machine Learning, Digital Integrated Circuit Design

AWARDS & RESEARCH EXPERIENCE

Human Computer Interface & Internet of Things: Battery-Free E-ink tag
Advisor: Prof. Junrui Liang, Leading METAL group at SHTU *Jul 2020 - Present*
- Investigated full and partial screen refreshing energy consumption per frame by E-ink respectively
- Implemented piezoelectric motion energy harvester and energy management using LTC-3588
- Realized battery-free E-ink bistable display on SoC Nordic 52832

Digital Integrated Circuit Design: 4 bits Processor Based on MOS Process
Advisor: Prof. Xufeng Kou, Leading PMICC group at SHTU *Jun 2020 - Jul 2020*
- Proposed schematics and layouts for 4 bits arithmetic logic unit and 16x8 bits data static random access memory
- Optimized the worst-case delay of the ALU and SRAM to below 2ns with mirror adder and logical efforts

Embedded Systems: Multi-capacitors and PID voltage control repeating coil gun
Advisor: Prof. Junrui Liang, Leading METAL group at SHTU *May 2020 – Jul 2020*
- Designed and simulated the schematic using Multisim
- Designed PCB by adopting Altium Designer and iterated hardware prototype
- Optimized the maximum voltage capability from 60V to 150V by replacing power MOSFET with IGBT

2019 TI Cup National Undergraduate Electronic Design Contest Shanghai Division second prize
Advisor: Prof. Haoyu Wang, Leading PEARL group at SHTU *Jul 2019 – Aug 2019*
- Investigated STM32-based RLC circuit parameters and developed short-circuit position detection system
- Investigated theoretical characteristic frequencies of RLC combined circuits using Bode Plot and MATLAB
- Developed the algorithm to classify structure of unknown RLC circuit at theoretical characteristic frequencies

FAB Academy X China: Multi-device collaborative face recognition *Nov 2018 - Dec 2018*
Open-sourced on Github
- Realized the face recognition based on PC, Raspberry Pi and Intel Neural Compute Stick
- Implemented the functionality of edge computing of the architecture above using SMB as file transfer protocol.
- Optimized the delay of multi-device per frame to below 2s (0.15s at local) by changing file transfer protocol

COURSE PROJECT

Design Thinking: Stock investment simulation teaching app based on Web Crawler | Group *May 2018 - Jun 2018*
Web and Text Mining: Quora comment crawling and sentiment analysis | Group *Jul 2018 - Aug 2018*
Electromagnetics: Patch antenna | Group Leader *Jun 2019 - Jul 2019*

MISCELLANEOUS

Language and Software: Python, C, Assembly, Matlab, Vivado, Multisim, Proteus, Cadence, Altium Designer, LaTeX, Lightroom, Photoshop, Premiere
Embedded System development: STC89C52, Arduino, STM32, Raspberry PI, Nordic 52832, ZedBoard (FPGA)