YE ZHOU

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EDUCATION

- Master, Electrical and computer engineering, Rice University, Expected graduation: Fall 2023
- BS, Computer engineering, University of Utah, GPA: 3.6, Graduated: Fall 2021

RELATED COURSEWORK

Programming: Algorithms, Software Practice, Objected-oriented Programming, Computer Systems, Computer Organization
Micro/Nano systems: Semiconductor Device Physics, Fundamentals of Micromachining
Digital design: Digital System Design, Embedded System Design, CAD for Design of Digital Circuit, Test/Verification for Digital Circuit
Integrated circuit: Digital VLSI Design, Analog Integrated Circuit
Data Analysis: Introduction to Scientific Computing, Programing for Data Science

WORK EXPERIENCE

Sanchez Research Lab, University of Utah **Salt lake city**
Research assistant *May 2021 to Dec. 2021*

- Improved noninvasive electrical impedance dermography device URSKIN with Android Mobile App.
- Helped patients undergo four-electrode electrical impedance dermography measurements with URSKIN, collected data via bluetooth.
- Developed a linear mixed-effects model to analyze basal cell carcinoma patient data to verify the URSKIN device detected significant electrical differences between basal cell carcinoma and adjacent normal skin.
- Developed a random forest model and confusion matrix of measured data for basal cell carcinoma, squamous cell carcinoma and adjacent normal skin to confirm which skin cancer disease is most likely to correspond to the measured data.

PROJECT EXPERIENCE

Wireless Named Data Networking (NDN) over LoRa sponsored by L3-Harris **Salt lake city**
Student researcher *Aug. 2020 to May. 2021*

- Implemented NDN over a Long Range (LoRa) network via using raspberry pi and SX1276 and SX1272 LoRa module.
- Implemented a one-to-many multicast data transmission for confirming that NDN will improve the reliability and security of the Internet, especially during emergencies, such as partial regional disconnections. Github page for NDN over LoRa
- Designed and soldered the circuit to interface the SX1272 with the raspberry pi.

Course projects

- Implemented anti-interference Arduino project (based on C++) using infrared LEDs and sensors to transmit text and digital information. [Fall 2019]
- Designed a Mario Cart video game using verilog on Cyclone V FPGA board with VGA display. Implemented all basic parts from mux and finite state machine to cpu top level. [Fall, 2020] Presentation video on Youtube
- Designed and soldered PCB board for LED matrix, implemented the C for the stm32 board to enable the LED matrix to adjust its brightness with the volume of the audio input. [Spring, 2021]
- Designed a TankWars game using C# with using the computer arrow keys to control the tank direction, and the mouse orientation and right click as aiming direction and shooting action. Completed collision detection of tanks with obstacles and bullets, as well as initial HP setting of 3 and death detection after three collisions. [Fall, 2021]

PUBLICATIONS

Electrical characterization of basal cell carcinoma using a novel handheld electrical impedance dermography device, X Luo, **Y Zhou**, T Smart, D Grossman and B Sanchez. Journal of Investigative Dermatology Innovations, 2021. JID Innovation

SKILLS

- **Programming** C, C++, Java, Verilog, C#, Python
- **Data analysis:** MATLAB, RStudio
- **Digital design:** Quartus Prime
- **Circuit design/simulation:** PSpice, LTSpice, WaveForms, Arduino, EAGLE, Cadence
- **Languages:** English: Professional proficiency. Mandarin: Native.

AWARDS

Honorable Mention: Prospective Graduate Students for 2021 Purdue University College of Engineering Virtual Graduate Showcase
Presented on research work for noninvasive electrical impedance dermography device URSKIN and data analysis in basal cell carcinoma.

Dean's List
University of Utah [Spring 2019 - Fall 2020]