Yue Zheng

+8613792519937 • zhengyueapply@gmail.com
Add: 16-3, Feicui Road, Zhifu District, Yantai, Shandong, P. R. China 264001

EDUCATION BACKGROUND

Hubei University of Technology (HBUT) Sept. 2019-Jun. 2023

Bachelor of Electronic Science and Technology (GPA: 3.4, ranking: 3/34) Expected in June 2023

- Scholarships: Second-class scholarship of HBUT Oct. 2020 & 2021

RESEARCH EXPERIENCE

***Team Leader*, Design of edge computing chip for IoT applications** May 2022-Present

National Level Undergraduate Innovation and Entrepreneurship Training Program

- Designed an edge computing SoC with a big-little-core RISC-V processor and a systolic array, planned to tape it out this December
- Completed the design and verification of the big core: implemented the 64 bit 5-stage pipeline core with 70K gates and reduced its power to 9.5mW
- Designed the systolic arrays for CNN acceleration application, aiming to achieve a peak throughput of over 500GOPS under 250MHz. (ongoing)
- Participated in full digital ASIC flow, including design and verification, logic synthesis, place and route, and physical verification (ongoing)

***Team Leader*, Smart Garbage Bin Based on Image Recognition** Oct. 2020-Oct. 2021

- Analyzed data collected by searching and questionnaire to gain insight into factors preventing people from classifying garbage
- Trained a ResNet50 TensorFlow model with a garbage dataset of 70k images and, successfully classified garbage images into four types with an accuracy of 94% - 95%
- Deployed the trained model both on a cloud server and on a Raspberry Pi and evaluated their resource consumption, power consumption, and latency
- Optimized the operation logic of the garbage bin by integrating the image reorganization technology with a user-friendly appearance to educate people with garbage classification knowledge while throwing wastes

PROJECT EXPERIENCE

No more Formulas iOS demo (independent project) May. 2021

- Designed an iPad APP demo using SpriteKit and UIKit to visualize formulas by cropping and stitching geometric shapes
- Realized the interaction between users and geometric shapes to help students memorize formulas intuitively

Simulation of the FAST Radio Telescope's working condition Mar. 2021-Oct. 2021

- Built the basic paraboloid model and calculated the 2226 coordinates of the active displacement type cable net knots when the celestial body was directly above the observation point
- Modeled the working condition using the least-squares method, simulated the approximate shape of the reflector panel in MATLAB while observing celestial bodies at different positions, calculated corresponding coordinates, and output the working condition diagram

Bluetooth Controlled Obstacle Avoidance Trolley May 2021-Jun. 2021

- Designed the PCB of the voltage regulator module with Altium Design and optimized the layout of traces to meet the requirement of PCB printing equipment
- Programmed the interrupt function to enable the trolley to avoid the obstacle after receiving signals sent by ultrasonic module HYSRF05
- Connected the Bluetooth module HC-08 with the main controller module through UART protocol and wrote a corresponding Bluetooth driver function to allow the trolley to be controlled by a mobile phone

Analysis and Forecast of Building-integrated Photovoltaics (BIPV) Index Apr.-May 2021

- Pre-processed the data of 37 BIPV stocks with Python and calculated the daily BIPV sector indices within two years
- Forecasted BIPV sector indices in a month with 5 days, 10 days, and 20 days moving average model and autoregressive integrated moving average separately, evaluated their residual
- Analyzed the autocorrelation of the sector indices by the method of differences and concluded their seasonal cycle trend

SKILLS

Computer Skills: C (3 yrs); C++ (3 yrs); Python (3 yrs); MATLAB (3 yrs); Swift (2 yrs); Photoshop (8 yrs)
Other Skills: Piano (14 yrs); Trombone (3 yrs, with 3 yrs performance in the university orchestra); Martial art (10 yrs, with 8 yrs intense training); Tennis (4 yrs)