**CAO Xinyang**

Contact No.: 86-15373127691 Email: 2785059487@qq.com

Address: Huaqing City, No. 588, Swan Middle Road, Jingxiu District, Baoding, Hebei, China, 071000

**EDUCATIONAL BACKGROUND**

**Harbin Institute of Technology Heilongjiang, China**

Bachelor’s Degree 09/2020-07/2024

* Major: Bachelor of Engineering in Communication Engineering
* GPA: 80.19/100

**INTERNSHIP EXPERIENCES**

**Chinese Academy of Sciences Beijing, China**

*Research Assistant in Electronic Circuit and Structural Design*  01/2023-02/2023

* In charge of the design and development of advanced hardware systems, including hardware design, FPGA, driver development, and structural design.
* Participated in driver design and development, as well as performed structural design and assembly debugging.

**Huawei Technologies Co., Ltd Beijing, China**

*Intern* 07/2022-08/2022

* Responsible for the installation and debugging of communication wireless base station equipment, including BBU, RRU, and antennas, to ensure the smooth transmission of the onsite optical paths.
* Collaborated with backend supervisors for the data activation of devices.

**PROJECT EXPERIENCES**

**Research on CCSDS spatial link layer protocol identification technology based on ensemble**

**learning 09/2023-06/2024**

* This project studies the structure and function of CCSDS protocol system, and researches various protocol identification technologies such as machine learning and integrated learning, and explores their principles and advantages and disadvantages for protocol identification. Finally, the link layer protocol identification system is designed and implemented. Several classical ensemble learning algorithms are used to build the model, some interference factors are added to the data set, and the accuracy of the identification protocol model is tested by evaluation indicators.

**Satellite Communication**—**Design of Satellite Handheld Terminal Supporting Voice Service 05/2023-06/2023**

* Got the parameters such as minimum reception sensitivity and coding gain of the satellite handheld terminal that supports voice services through calculation, and designed the receiver for the handheld terminal according to these parameters.

**Communication Electronic Circuit**—**Medium Wave Radio Station Transmission and Reception System 09/2022-12/2022**

* Used Multisim software for programming and simulation.
* The transmission system modulates the voice signal as modulated signals and transmits them; the receiving system recovers the baseband signal from the AM modulated signal transmitted by the transmitter.

**Digital Signal Processing**—**Audio Processing Digital Filter 09/2022-11/2022**

* Implemented the filtering of bandwidth noise and single frequency noise through MATLAB, and plotted the corresponding time-domain and frequency-domain graphs.

**Microcomputer and Microcontroller Principles**—**Doorbell Designed with Timer 04/2022-06/2022**

* Used Proteus software to write program code, compile it, and run simulations.
* Simulated different doorbell sounds by controlling the buzzer with timer and controlled the different doorbell sounds with different buttons.

**Electronic Circuit Basics**—**Sound-Controlled LED Flashing Light Circuit 04/2022-05/2022**

* Used Multisim software for programming and simulation.
* Achieved the LED light flashes in response to changes in ambient sound to judge the strength of the noise in the environment, which facilitates people to adjust the volume.

**College Students' Innovative Entrepreneurial Training Plan Program**—**Smart Flowerpot**

**10/2021-07/2022**

* Used the hardware description language Verilog for programming, and used hardware such as the STM32 microcontroller, DHT11 temperature and humidity sensor, Arduino development board, and GY-30 light intensity sensor to support the functions of the flowerpot.
* Made a flowerpot that can monitor environmental conditions such as temperature, light intensity, and humidity, as well as added the function of adjusting light intensity and humidity to improve the practicality of the flowerpot.

**Graphical Programming Language LabVIEW Practice**—**Snake Game Software 07/2021-08/2021**

* Designed a snake game software, programmed and ran it through LabVIEW.

**C Language Programming**—**Minesweeper Game Program 09/2020-12/2020**

* Decomposed the system from top to bottom into modules, drew structural diagrams between each functional module, designed specific functions, and completed the overall structure of the code and supplemented its functions.

**EXTRACURRICULAR ACTIVITIES**

***Officer* | Practice Department, Youth League Committee, School of Electronics and Information Engineering 09/2021-06/2022**

* Wrote event planning proposals, and participated in various activities, such as the basketball match, provincial library reading sharing session, "Learning from Lei Feng" activity.

***President* | Go Club, Harbin Institute of Technology 09/2021-06/2022**

* Organized and engaged in university-level competitions and exchange activities, such as traditional culture festival, welcome reception and intellectual sports meeting.

***Group Leader* | Sociopolitical Practice of a Survey on College Students' Employment Outlook and Future Planning 02/2021-07/2021**

* Led group members in conducting field research and launched online survey questionnaires.

**AWARDS & HONORS**

Third Prize in the Undergraduate A Group of Heilongjiang Province in the 10th "Datang Cup" National College Students' New Generation Information Communication Technology Competition (Provincial Level) 05/2023

Third Prize in the 3rd "Huashu Cup" China Undergraduate Mathematical Contest in Modeling (National Level) 08/2022

Second Place in the Individual Go Game at the 3rd Student Intellectual Sports Meeting of Harbin Institute of Technology (University Level) 05/2023

Third Place in the Individual Go Game at the 1st Student Intellectual Sports Meeting of Harbin Institute of Technology (University Level) 06/2022

Outstanding Officer of the Youth League Committee Student Union at Harbin Institute of Technology (University Level) 03/2022

Outstanding Student for the Academic Year 2020-2021 at Harbin Institute of Technology (University Level) 12/2021

Second Prize in the Party History Knowledge Competition of the Basic Studies Department at Harbin Institute of Technology (University Level) 05/2021

**ADDITIONAL INFORMATION**

Language Proficiency: Chinese, native speaker; English, proficient, IELTS 6.0

Computer Skills: Proficient in MS Office, Codeblocks, LabVIEW, Multisim, MATLAB, Proteus,Pycharm, etc.