Shihao Sun

+86 13253385934 • 2295529482@qq.com • ssh022-s.github.io

EDUCATION

Shanghai Ocean University **CA**
Master of Electronic Information *2020-2023*

Zhengzhou University of Light Industry **CN**
Bachelor of Computer Science *2016-2020*

EXPERIENCE

FPGA_CMDEL Verification *2024 – Present*

- Initial verification of the company's chips, **CMDEL** verification and SDK development and maintenance
- FPGA verification, verification of the FPGA version based on the newly developed chip nat
- Currently responsible for the FPGA verification of the **vlan**, **nat**, and **ecmp** modules of the **SPEC** part of the chip.The project progress is currently completed. The development of the project SDK has been completed. The vlan division, nat, and ecmp modules have been completed.

Suzhou Xiongli Technology

Software Engineer *Jan 2023 – Dec 2023*

- The development work of switch software mainly involves the protocol development of the complete switch and daily projects, the development and transplantation of **IGMP**, **IGMPSnooping**, and **GMRP** multicast module switch system equipment management functions. Maintain and develop the CLI command line and website interface of relevant modules to ensure stable operation of the module. He also participated in the project research and development of the company's **IPSec_VPN** board, implemented data delivery through CLI to interact with the chip, and initially implemented an **IPSec** encrypted transmission channel based on **Strongswan**.
- Complete the transplantation, development and daily maintenance of the multicast module, including the transplantation and development of three-layer IGMP, two-layer IGMPSnooping and GMRP, as well as chip SDK development and adaptation, and perform daily maintenance on several functions to ensure the normal operation of the module.
- Synchronously develop the CLI and web for the device management module of the switch system to implement software upgrades, replacement of active and standby versions, and remote upgrade (**Ymodem**) functions.
- Carry out research and development work on the IPSec_VPN board project, develop SDK to adapt to the ISE chip, realize CLI delivery of encrypted channel data, and realize the function of adding, deleting, modifying and checking data.

Hello Travel

Software Engineer *Jul 2019 – Jan 2021*

- Engaged in back-end R&D and testing in the two-round operation and maintenance, mainly responsible for the development of the automated service interface platform and the development and testing of the BOS-side operation and maintenance APP. Within the framework of the team, he was responsible for the changes to the scenic vehicle interface and the technical modification of the maintenance model, and realized the automated generation of associated.

PROJECTS

High-speed camera acquisition and storage software development *2023*

- Complete the development of **high-speed camera** software and realize **500fps/s** real-time image acquisition, transmission and lossless storage, and use the memory circular buffer to buffer the collected data.
- Realize frame-skipping playback and landmark point detection of multiple frames of collected images, and use the neural network model and improved **QR code** camera calibration method to automatically identify landmark points in the image and automatically calibrate the camera.
- Realize automatic image collection, camera calibration, landmark point recognition, and export landmark point displacement functions to automatically calculate the displacement, speed, acceleration and other parameters of the landmark point.
- In addition, the collection and storage are accelerated through **FPGA**. The high-speed sequence data is temporarily stored through the **FPGA** module. The data is transmitted through the **PCIE** interface at high speed. The data is stored efficiently through the memory circular buffer.

AWARDS

2022: The published paper "Adaptive Buffer Capture And Storage For High-Speed Camera" was included in SCI.

SKILLS

Python, C++, C#, Go, Pytorch, Tensorflow, Git, Docker, ZeroMQ, Ray, Linux, Unity.