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Github Repository

<https://github.com/loongx2>

Keywords:

C, C++, Python
Embedded, Machine Learning, Git

Hean Loong Ong

Staff Software Engineer

Penang, Malaysia

Summary

Experienced Software Engineer with 20 years of development in Embedded and High Speed Networks

Experience

Lattice Semiconductor

Staff Software Engineer (Customer Application)

November 2023 - Present (1 year 5 months)

Penang, Malaysia

- Lead development strategy on Industrial Ethernet applications for Lattice FPGAs
- Enable Industrial Ethernet ETHERCAT and PROFINET applications on FreeRTOS
- Lead and implemented embedded reference design with Zephyr OS on Lattice FPGA
- Formulation of validation framework for Industrial Ethernet Protocols based on CI/CD
- Technical team lead for Industrial Ethernet team of 3 people

Infoblox

Staff Software Engineer (R&D)

July 2020 - November 2023 (3 years 5 months)

Selangor, Malaysia

- Integrate Intel DPDK software driver with packet inspection engine on Linux platform
- Develop HTTP/2.0 engine backend DNS security application on Linux platform
- Design and maintain Python based DNS security rule parsing engine on Linux platform
- Debugging issues on Virtual Machine performance (packet processing) on KVM/VMWare machines
- Tech lead for Packet Inspection Engine for DNS security on High Speed Networks (10G)

Intel Corporation

Senior Software Engineer (R&D)

September 2016- July 2020 (3 years 10 months)

Penang, Malaysia

- Lead and strategize development strategy on Intel SoC FPGA Golden Reference Design
- Enablement of Intel SoC FPGA Stratix 10, Arria 10 and Agilex on Linux Yocto
- Lead and implemented embedded reference design with Display Port on Intel SoC FPGA Linux Software
- Maintain Dev Ops framework for Linux FPGA based on Yocto CI/CD approach
- Technical team lead for Secure Software Development Cycle for Intel SoC FPGA Linux Software
- Developed Intel Machine Learning validation nodules for KNN and SVM algorithms

Infoblox

Senior Software Engineer (R&D)

March 2015- July 2016 (1 year 5 months)

Selangor, Malaysia

- Design DDOS mitigation software on high speed network platforms (10G) on Linux
- Debug bare-metal firmware application running on MIPS processor for high speed network (10G)
- Design DNS packet inspection application for bare-metal and on Linux virtual platforms
- Porting Zebra software functionality for IPv6 BGP into custom Linux platforms

Motorola Solutions

Senior Software Engineer (R&D)

October 2008- February 2015 (6 year 5 months)

Penang, Malaysia

- Design and Subject Matter Expert of Motorola Radio PCR and TETRA Accessories Software
- Maintain C++ codebase for Motorola UML framework for Low Level Hardware DSP interface
- Migration codebase from Nucleus OS to Monta Vista Real-Time Linux OS platform for Motorola Radio
- Lead 2 men team on Agile development on debugging and feature development for low level Embedded software

Universiti Sains Malaysia

Researcher (R&D)

July 2005- July 2008 (3 years)

Penang, Malaysia

- Enable IPv6 Open Source Switch Emulator for training and experimental IPv6 networks
- Maintain USM KEIO Satellite communication project over IPv6 networks
- Enable and patch IPv6 network kernel drivers for OpenBSD and Red Hat platforms

Education

Universiti Sains Malaysia (2005 - 2008)

Masters in Computer Science (Computer Networks)

Universiti Tunku Abdul Rahman (2003 - 2005)

Bachelor in Computer Science

Kolej Tunku Abdul Rahman (2001 - 2003)

Diploma in Computer Science