

## Contact

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## Top Skills

C++

Python (Programming Language)

C (Programming Language)

## Certifications

Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning

Sequences, Time Series and Prediction

Convolutional Neural Networks in TensorFlow

AI Workshop: Build a Neural Network with PyTorch Lightning

Hands-On PyTorch Machine Learning

## Publications

Routing with a density-based probabilistic algorithm for mobile ad-hoc networks

Node Density Effects on Reactive Routing Protocols for Mobile Ad Hoc Wireless Networks

# Hean Loong Ong

Combining years of Embedded grit with the frontier of A.I  
Bayan Lepas, Penang, Malaysia

## Summary

A Software Engineer with a penchant for venturing into the unknown  
<https://loongx2.github.io/heanloong.github.io/>

## Experience

Lattice Semiconductor

Customer Applications Software Engineer

November 2023 - Present (2 years 3 months)

Penang, Malaysia

Debug and solve issues related to Industrial Ethernet like EtherCAT and PROFINET

Solve performance bottlenecks on small FPGA devices for Industrial Applications in FreeRTOS

Developed Industrial Ethernet application on FreeRTOS stack based on soft IP FPGA

Enabled Zephyr support for soft RISC-V core on FPGA

Infoblox

Staff Software Engineer

July 2020 - November 2023 (3 years 5 months)

Malaysia

Debugging DNS/Ethernet issues on Linux. Including OS performance bottlenecks and Ethernet packet corruption

Developed cloud based DNS applications to inspect malicious network packets

Developed backend security service running HTTP/2.0

Developed high-speed network packet processing

Intel Corporation

Senior Embedded Software Engineer

September 2016 - June 2020 (3 years 10 months)

Penang, Malaysia

Debugging Linux OS issues related to FPGA drivers (esp. Ethernet and Display Port)

Debug and solve Yocto build frameworks issues including working on packages with security flaws  
Maintains Nightly Linux kernel and Intel FPGA Yocto builds and version upgrades  
Maintainer of Intel FPGA Yocto SDL packages  
Maintains internal Intel FPGA ARM SoC drivers for Yocto

1. Intel FPGA ARM SoC Frame Buffer  
<https://www.phoronix.com/news/Intel-DRM-FPGA-Arria-10>
2. Intel FPGA ARM SoC SDK Reference Drivers (GPIO, I2C, SPI)
3. Intel FPGA ARM SoC Ethernet drivers

Develop Regression test suites for Intel FPGA ARM SoC Yocto

## Infoblox

### Senior Software Engineer

March 2015 - July 2016 (1 year 5 months)

Debug and solve embedded software issues related to Linux based PCIe Network Accelerator  
Developing DNS DDos mitigation applications on Linux platforms (virtual and physical machines).  
Coding environment is based on C and Python.  
Adopted Agile development approach.

## Motorola Solutions

### Senior Software Engineer

October 2008 - February 2015 (6 years 5 months)

Penang, Malaysia

Develop digital professional radio software. Mainly concentrating on power management and accessory interface issue.  
Coding environment is in C and C++  
Worked under development Agile environment

## Universiti Sains Malaysia

### Researcher

May 2005 - April 2008 (3 years)

Penang, Malaysia

Administering IPv6 networks for MYREN group.  
Work on setting up IPv6 network emulators for training.  
Publish research Wireless Networks.

## Education

Universiti Sains Malaysia

Masters in Computer Science, Computer Networks · (2005 - 2008)

Universiti Tunku Abdul Rahman

Computer Science Bachelor, Computer Science · (2003 - 2005)

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· (1988 - 2000)