Yuzhen **Zhuo**
Senior (Embedded) Software Engineer, Expert in IoT and Home Automation

- +65 81903603
- aging.chan@mail.com
- linkedin.com/in/AgingChan
- github.com/AgingChan
- Blk 14 Ghim Moh Road, #08-03, Singapore 270014

I'm actively looking for new chanllenges, eager to learn and adopt new technologies in my next product.

Skills

Programming :	C/C++, Node JS, Python, Bash Script, VHDL/Verilog HDL, HTML/CSS/Javascript
Database :	MySQL, MongoDB, SQlite
Dev Tools :	Eclipse, Sublime Text, Visual Studio, Git, MantisBT, Trac, Github, BitBucket
OS Platform :	Windows, Linux(Debian/Ubuntu, RHEL,OpenWRT and so on), RTOS(Free RTOS, ThreadX)
Comm Protocols :	Bluetooth/BLE, Zigbee/RF4CE, WiFi, GPRS, UART, SPI, I2C, CAN, ModBus, PLC, 6LowPAN

Professional Experience

RFCOM Technologies Pte. Ltd., Singapore   **Senior Software Engineer**   *Jan 2016 - Present*

Present
Dec 2016   **HDB Smart Socket Solution**

`3G-PLC` `6LowPAN` `WiFi` `BLE` `µITRON RTOS`

- > Project Coordination with two partner enterprise
- > API Definition and Documentation for internal use and for our partners
- > Develop a 3G-PLC 6LowPAN Coordinator and PLC-WiFi-BLE Gateway
- > Implement the power consumption measurement

Present
Oct 2016   **BLE Mesh-WiFi Gateway**

`BLE Mesh` `WiFi` `OpenWRT` `MQTT` `Node JS` `TLS/SSL`

- > UBoot Bootloader and OpenWRT feeds/packages customization
- > Mosquitto MQTT Broker for LAN access
- > MQTT Node JS Client connect to a Cloud Server
- > BLE Mesh UART Modem
- > HTTPS Web Server for Bootloader/Firmware Upgrade and WiFi Configuration

Dec 2016
Nov 2016   **RF4CE/IR Universal TV Remote Controller**

`RF4CE` `IR`

- > IR Learn
- > Standalone Setup
- > Philips On Screen Simple Setup

Oct 2016
Aug 2016   **BLE Module with Transparent Serial Port Profile for Australia and New Zealand Market**

`Bluetooth Low Energy`

- > Product Feature and Functionality Definition
- > Implement the features from scratch
- > Technical Trainings for disty and customers

Jul 2016
Mar 2016   **BLE Module Modem Firmware and cross-platform Host SDK**

`Bluetooth Low Energy`

- > BLE modem firmware based on Renesas BLE solution
- > Build up a cross-platform Host SDK for the easy integration
- > Create User Manual and Application Notes
- > Technical Training for disty and customers

Jun 2016
Feb 2016   **Renesas BLE stack on Synergy Platform(Verified Software Application)**

`BLE` `Beacon` `RTOS(ThreadX)`

- > Develop BLE host SDK on Synergy Platform
- > Implement BLE iBeacon/Eddystone Beacon/AltBeacon
- > Implement BLE Blood Pressure Base Station

Jun 2016
Nov 2015

BLE Mesh system solution for Home Automation

BLE Mesh

> Build up the BLE Mesh system framework and platform
> Define BLE Mesh APIs and device classification and identifiaction
> Implement BLE Mesh enabled Smart LEDs with RGB, white and yellow. It supports scenes, timers, flash, breathe and disc mode.
> Implement a BLE mesh module with UART interface to integrate into digital control systems for chained hotels

Jan 2016
Nov 2015

On Screen Simple Setup

RDK Linux | HTML5/CSS | RF4CE | Linux USB driver

Develop On Screen Simple Setup Application on Set-top Box platform. It could configure Philips Universal Remote Control Unit according to your TV brand and model.

RFCOM Technologies Pte. Ltd., Singapore   **Embedded Software Engineer**   *Oct 2014 - Dec 2015*

Nov 2015
Jun 2015

GPRS Module for Smart Metering

Abstract Operating System | TCP/IP | GPRS | Quality Control

> Design and implement an abstract OS layer which manages the power, timer, events, tasks, prepherals and other resources.
> GPRS network management and TCP/IP connection maintainance
> Design efficient quality control mechanism and software for mass production

Aug 2015
May 2015

Meter Reading Collection System for legacy analogue meters

Tesseract OCR | Image Recognition | Linux Debian | OpenCV | ModBus | Django | Nginx | MySQL | Digital Ocean

> Deisgn and implement an auto-collection solution for legacy analogue meters
> Image pre-processing for meter reading capture
> Train Tesseract OCR Engine for high accurat digit recognition
> Supervise an Intern Student to setup a Demo Server at Digital Ocean

Feb 2015
Oct 2014

Bluetooth Set-top Box Remote Control Unit

Bluetooth 3.0 EDR | Voice Control | Accelerator/Gyro | Air Mouse | Touchpads

> Gesture recogonition using touchpad
> Air Mouse based on the accelerator and guro
> Design failure-safe Over-The-Air firmware update
> Factory mass production testing software

Maquet Critical Care AB, Getinge Group, Sweden   **Contract Software & FPGA Engineer**   *Jul 2013 - Feb 2014*

Feb 2014
Jul 2013

Patient Simulator on RealTime Linux

Real Time Linux | FPGA | Mathmatical Modelling | Automatic System Testing | Failure Injection | Google Protocol Buffer

> Build up a real-time Linux on Raspberry Pi
> Simulation model for patient lung to interact with respiratory ventilator which is a safety critical model
> Backdoor to simulate and inject Hardware fault/defect
> Translate the test cases into automatic testing scripts

👥 Training

Sep 2016

RFCOM BLE Module Technical Training, *Sydney and Auckland*
Main Trainer

BLE

May 2016

Renesas Synergy Platform Technical Training, *Singapore*
Assistant Trainer

Renesas Synergy | ThreadX

🎓 Education

Jun 2014 Aug 2012	**Uppsala University**, *Uppsala, Sweden* M.Sc. in Embedded Systems
Jun 2012 Aug 2008	**Zhejiang University**, *Hangzhou, China* B.Eng of Information and Communication Engineer

✏️ Publication

2014	Static Priority Schedulability Analysis of Graph-Based Real-TimeTask Models with Resource Sharing
2014	Non-intrusive Patient Simulator for Medical Ventilator Software Verification

🔤 Langues

Madarin ●●●●●
English ●●●●○

♥ Interests

Développement mobile :	iOS, Android, **Windows Phone**
Développement web :	HTML5, CSS3
Photographie	