# James Jian / CV

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**Career Objective**
To work in an innovative and challenging environment that will enhance and improve my skills and knowledge and to grow with the company. My goal is simply trying to make products that are meaningful to people. Innovation has only been possible because of electronic devices. Currently seeking a suitable electronic engineer position where I can make a strong contribution to the organisation.

## Hobbies:

ESP32(S2)(S3), ESP8266, STM32 and Raspberry Pi are my favourite hardware. Ported Google assistant to Raspberry Pi and use Pi as the master to control ESP32/ESP8266/STM32 with LoRa/WiFi and measure temperatures and humidity etc... and then send to the cloud. Message Queuing Telemetry Transport (MQTT) is my favour protocol to exchange the data between difference devices. Focused to learn the ESP-IDF (Espressif IoT Development Framework), IDF is enormously powerful tool for Internet of things. Using VisualGDB as my IDE to debug the ESP32 and STM32 via J-Link for my own project. I am also learn Introduction to Embedded Machine Learning from Coursera to help me running deep neural networks and other complex machine learning algorithms is possible on low-power devices like microcontrollers.

**Employment History**

Sep 2019 – NoW
Firmware Developer (Full-time) –Gallagher (Agersens Ltd)
Camberwell VIC, Australia

- Development environment: Eclipse-based IDEs for ARM-Cortex-M series MCU.
- Development of software for LoRa, GPS and IMU components use C/C++.
- Development of scripts base on python for internal team usage.
- Design, execution and documentation of system and test scripts.
- Involved in software release process – testing of the Firmware release, archiving, verification of archival.
- Competent in using software project management tools – Bitbucket, JIRA and Confluence.
- Document software requirements, detailed design, risk analysis of software.
- Knowledge of LoRa devices for Agriculture application.
- Working knowledge in embedded OSes (e.g. FreeRTOS) and tasking.
- Knowledge of outdoor devices Geolocalization using LoRaWAN.

May 2018 – Sep 2019

Electronics and Software Development Engineer – Traffic Technologies Ltd
Eltham VIC, Australia

**Responsibilities:**

- Develop embedded hardware and software with the ultra-low power STM32L073 micro-controller, the SX1276 LoRa long range modem and the CXD5603GF GPS modem.
- Schematic capture, layout, and component creation using Altium Designer 19
- Implement angle detection and debug driver level with built-in a 9-axis sensor, with includes a triple-axis gyroscope, a triple-axis accelerometer, and a triple-axis magnetometer.
- Use Node-Red programming tool for debug the connection between TheThingsNetwork and the LoRa device.
- Setup and configure new LoRaWAN gateway and devices from different vendors.
- Implement the package forwarder on Raspberry Pi.
- Read and write hardware and software specification and manual documentation in English and in Chinese.
- Work together with hardware and software team in China and mechanical team in Australia to draft up the requirement of electro-mechanical.

JAN 2015 – MAY 2018
Electronics Engineer - Arbor Australia Pty Ltd
Bayswater North, VIC, Australia

**Responsibilities:**

**Hardware:**

- Specifying the PCB layout requirements and collaborating with the CAD (Solidworks) engineers to get the board designed in Altium 17.
- Schematic entry: Altium as entry tool, symbol creation with component attributes, schematic entry & Bill of Material generation
- Drawing up the Bill of Materials & collaborating with vendors to procure the components for prototype builds.
- Identifying and collaborating with assembly houses/contract manufacturers to get the prototypes built.
- Use of oscilloscopes, logic analysers, multi meters, image downloading, defining and executing bring up, functional test & verification procedures.

**Software:**

- Create embedded ARM (Cortex M4) software support packages.
- Bring-up new devices and debug embedded environments.
- Experience with Configuring and using MQTT broket to send commands and receive events from devices.
- Implementation of software using the Real Time Operating System (FreeRTOS and ThreadX).
- Implementation of Human Machine Interface Software utilising the GUIX.
- Implement J-link debug software to hardware
- Implement CLI using USBX device CDC-ACM module.
- Implement Wi-Fi modules firmware.
- Create custom Board Support Packages for devices.
- Doxygen documentation while Coding
- Version Control Systems: GIT.
- Connect hardware to AWS cloud.

**Achievements**:

- Performed component material operations to meet customer specifications.
- Responded to customer queries and feedback.
- Confidently produced schematics design and PCB layer out
- Designed and implemented system hardware and software life cycle
- Developed confident levels of proficiency with digital interface such as SPI, I2C, and RS232 etc...

## Technical Skills:

Altium designer 17 to 20 - Intermediate / 3 Year
Embedded 'C' and Arduino - Intermediate / 2 Years
Eclipse IDE embedded - advanced / 2 Years
Python - Junior / 1 Year
Node-Red – Junior

## Skills

- Communication - Being able to convey intended meaning that can be understood by others to instil thoughts that result in desired responses or actions.
- Problem solving - Strengths in the ability to solve problems, analyzing warning signs, identifying the problem, and finding the solution. Explore solutions through looking at alternatives, brainstorming, and checking out different points of view.
- Initiative – Highly self-motivated, Persistent, Resourceful, willing to accept responsibilities, hard-working and keen desire to learn.
- Teamwork - An energetic team member, able to communicate effectively with people of all ages and backgrounds, to work collaboratively to resolve problems, and to motivate other members to achieve personal and organizational objectives.
- Time Management - Skilled in strategic planning and implementation; able to prioritize effectively, multi-task and achieve objectives within time and budget.

### Education / Qualifications

July – Present
Coursera.org online education

Course's name: A developer's guide to the Internet of Things by IBM.
Use Node-RED, an open-source visual application development environment, on both the device and the cloud.

GRADUATED: JUN 2017
RMIT University
SolidWorks Certificate - Level 1, Mechanical Engineering, 2017 - 2017

GRADUATED: JUN 2015
Bachelor of Electronics Engineering with Honours - La Trobe University
Melbourne, VIC, Australia
Grade: H1
Awards:

- Industry Cadetship Program Certificate From 2013 to 2014
- DEAN'S HONOURS 2012*
- DEAN'S HONOURS 2010*

*The Dean's Honours is awarded for recognition of outstanding academic achievement in the Faculty of Science, Technology and Engineering.

## Exchange Study - Lund University

Lund, Skane, Sweden
Courses taken: Algorithms in Signal Processors - Project Course, Patent and Intellectual Property Rights, Information Transmission

**Degree Related Projects**

Real Time Speech Recognition Engine
The individual project aimed at developing a Real Time Speech Recognition Engine on an FPGA using Xilinx Spartan 6 board. The system was designed so as to recognize the word being spoken into the microphone. Both industry and academia have spent a considerable effort in this field for developing software and hardware to come up with a robust solution.
**Responsibilities:**

- Effectively plan and scope all aspects of the project using PM Project
- Developed monitor all expenditures to ensure project budget was met
- Manage all stages of the project from initiation to closer

**Achievements:**

- Implemented a Real Time Speech Recognition Engine that takes as an input the time domain signal from a microphone and performs the frequency domain feature extraction.
- Excellent organisational and communication skills developed through managing the project.
- Strong mathematical and programming skills, with a demonstrated ability to conduct independent Project.

## Languages：

**English - Fluent**
**Chinese - Mandarin - Native**
**Chinese - Cantonese - Native**
Fluency in spoken and written technical and colloquial Mandarin Chinese and English

## Immigration / Work Status：

**Australia - Permanent Resident**