Personal characteristics

- Creativity
- Teamwork
- Work under pressure
- Communication
- Multitasking
- Time management

Technical skills

- Magnetic Resonant Coupling, Impedance Matching, Antenna Coil Design.
- Communication theory (GSM, CDMA, OFDM, M-QAM, Synchronization, Channel Estimation, Linear Interpolation Equalization, and Error-Correction Codes)
- **DSP**, DCT, FIR Filter Design, Adaptive Filter, Petri Net
- Sensor Network (CRC, TDMA, CSMA)
- Embedded systems (Qualcomm MSM 7627 Mobile Station Modem, Altera DE1, **Xilinx FPGA**, ADSP 21364 SHARC, PICDEM Z, ARM System, Arduino, 8051)
- Programming skill (**C**, **JAVA**, **VHDL**, MATLAB, MySQL Android)
- Development tool(Altera QUARTUS II, ModelSim, VisualDSP++, Visual Studio, Eclipse, MPLAB, Multisim, Ultiboard, Keil C, Codesys, PicoScope, Windows Mobile, Cygwin)

Yi Chi Chiu

Telecommunication, Software and Embedded Engineer

Education

2013-2014 University of Newcastle, School of Electrical Engineering **England**

MSc Communications and Signal Processing ***(Distinction)***

Relevant Modules

Signal Processing and Estimation, Real Time Computer Systems, Advanced Modulation and Coding Techniques, Reconfigurable Hardware Design, Simulation of Wireless Communication, Implementation of Wireless Receiver Algorithms, Sensor Network Project.

2005-2010 National Central University, School of Electrical Engineering **Taiwan**

Bsc Electrical and Electronic Engineering ***(2.1)***

Relevant Modules

Digital Signal Processing, Communication Theory, Cellular Communication, Program Language.

Work and Project Experience

Jan 2013 – Jul 2013 Manz AG, Software Engineer **Taiwan**

- Teamwork to implement the cutting-edge technology of Roll-to-Roll processing in automatic equipment and organize to control Servo motions, I/O modules, valves and pumps based on **PLC**.
- Designed the program scenario by **Codesys** and Aico system (VxWorks base).
- Trained communication skills by collaboration with German engineers.
- English speaking environment.

Apr 2011 – Jun 2012 Inventec Appliances Corp, Software Engineer **Taiwan**

- Teamwork to develop embedded systems using **C** programming language.
- **Driver design** for mobile devices based on **Qualcomm MSM7627** (Cross-Processor Support with ARM 9 and ARM 11), including battery, CPLD, keypad, UART, I2C, GPIO configuration and Ethernet Kitl by using **Windows Mobile** as the operating system.
- Developed skills on the integration between hardware and software, Multithreaded Programming, Object-Oriented Design, Preemptive OS Scheduler, Power Manager, and Project Management.
- Trained communication skills by collaboration with Motorola.
- Developed smartphones for main clients, WalMart and Coca-Cola.

Feb 2014 – Sep 2014 University of Newcastle **Newcastle upon Tyne, England**

"Wireless Power Transfer via Magnetic Resonant Coupling" *(6 months project)*

- Proposed a highly efficient wireless charging system for mobile devices with a mid-range charging transfer. The system operated at high frequencies with high power transfer based on **magnetic resonant coupling**. The farthest power transmission and low-cost development process were investigated. Innovation of the high flexibility was demonstrated. The proposed system can be utilized for most electronic devices including wearable devices and medical equipment.
- Analyzed, optimized and wrote up the results in 12000 words report.

Languages

- Mandarin (native)
- English (fluent)

Android Portfolio

- Real Time Recorder
  https://play.google.com/store/apps/details?id=com.demo.android.my_recorder
- BluetoothViewChat
  https://play.google.com/store/apps/details?id=com.demo.android.btviewchat

References

Professional and academic references available upon request

Sep 2013 – Jan 2014 University of Newcastle **Newcastle upon Tyne, England**

"Sensor Network Project" *(4 months project)*

- Designed a network of mobile sensor nodes, communicating with a 2.4GHz wireless link.
- Constructed a PCB with temperature, pressure, light sensor interfaced to a microprocessor.
- Implemented algorithms of Cyclic Redundancy Codes (**CRC**), **TDMA** and **CSMA**.
- Developed skills on **C** embedded program and **MPLAB** software.
- Analyzed, optimized and wrote up the results in 4500 words report.
- English speaking environment.

Sep 2013 – Jan 2014 University of Newcastle **Newcastle upon Tyne, England**

"Reconfigurable Hardware Design" *(4 month project)*

- Designed a FIR filter for **audio signal processing** with I2C protocol and S/P interface.
- Developed skills on **VHDL** programming language, **FPGA** board and **Altera QUARTUS II**, simulation with **ModelSim** software and oscillators.
- Analyzed, optimized and wrote up the results in 4500 words report.
- English speaking environment.

Sep 2013 – Jan 2014 University of Newcastle **Newcastle upon Tyne, England**

"Implementation of Wireless Receiver Algorithms" *(4 month project)*

- Demonstrated a coherent and a non-coherent version of a DPSK receiver based on the ADSP 21364 microchip.
- Developed skills on **C** programming language, **VisualDSP++** and **PicoScope** software.
- Developed skills on DPSK, bandpass and matched filter, symbol and frame synchronization and automatic gain control.
- Analyzed, optimized and wrote up the results in 4500 words report.
- English speaking environment.

Sep 2013 – Jan 2014 University of Newcastle **Newcastle upon Tyne, England**

"Simulation of Wireless Communication" *(4 month project)*

- Simulated digital communication link to establish the transmitter and receiver and investigate the performance using **MATLAB** (SNR and MMSE algorithms).
- Developed skills on 16-QAM and OFDM modulation, cyclic prefix length, multipath channel, pilot estimation and equalization.
- Analyzed, optimized and wrote up the results in 4500 words report.
- English speaking environment.

Mar 2013 – Jul 2013 Android Self project development **Taiwan**

"Real Time Recorder" On-line for free by Google Play *(4 month project)*

- Designed a creative recorder, which simplifies all the processes to one step used on Android.
- Developed skills on Android SDK, Java, MVC model, Thread, Broadcastreceiver, and **SQLite**.

Mar 2010 – Apr 2011 Android Self project development **Taiwan**

"BluetoothViewChat" On-line for free by Google Play *(3 month project)*

- Designed a social network application to search the surrounding users and share personal information with each other at the same time.
- Developed skills on Android SDK, Java, synchronization, Bluetooth protocol, and **SQLite**.
- Applied for patent successfully – **utility model patents M405690 Mobile Communication Devices by Intellectual Property Office in Taiwan.**

Achievements

- Achieved 81.6 of the average mark with **Distinction** in the first semester and gained a scholarship from Postgraduate Scholarship Scheme 2013 at Newcastle University
- Promoted twice within 6 months to be a senior software engineer at Manz AG.
- Performance assessment was ranked at the first 5 % of department in IAC in 2011.
- Android application – Real Time Recorder in Google Play was downloaded more than 20,000 and marked at 4.63/5.0 in 2013.

Embedded Engineer

Human Resources Department

Dear Sir/ Madam,

19/09/2014

I am writing to express my ambition for this position. With two years of experience in software development, I believe my past experience and my skill sets are a perfect match for this position.

Being a software engineer comes from my interest. I have a passion for creative thinking and have enthusiasm towards combining theories with practical products by utilizing the knowledge I have learnt and putting them into our real life, it motivates me to contribute all my effort.

Reflecting on my time at university, I have gained knowledge in areas such as **Real-Time Computer Systems, DSP, FPGA, Sensor Network**, and **Communication Theory**. Classes I attended introduced multiple access schemes in cellular systems, simulated wireless communication systems using **Matlab,** and implemented Time Triggered Cooperative Scheduler based on ARM-XILINX in C language. The experience in FPGA I accumulated by the design of a FIR filter in **VHDL** to demonstrate the Audio Signal Processing project. Furthermore, in the project "Sensor Network" I designed a network of mobile sensor nodes to transmit and receive data, using a 2.4GHz wireless link without collision and optimizing the data reliability both enriched my **C** programming skill. These also trained me to solve problems I faced and gained the ability of research.

Having worked in high technology companies in Taiwan as a software engineer for 2 years, I have developed skills on embedded systems, **C** and **C++** programming language based on Qualcomm microchip and Windows Mobile operating system. For embedded software projects of mine involved in the design of **system driver layer** and application development. Through the really enjoyable project collaboration with America Motorola and Germany Manz I have grown great project management and communication skills which support me to work under pressure. Additionally, my individual projects specialized in Android research including Android SDK, JAVA and UI design. Two Android applications I have published named BluetoothViewChat and Real Time Recorder in Google Play with a full development lifecycle. Technical knowledge from projects includes multithreaded programming, object-oriented design, design architecture and optimization. Some of which are highlighted in my CV. More importantly, I learned how to quickly analyze problems in a clear logical flow through inspecting hardware, measuring apparatus, debugging software issues, tracing call flow, and then find the root cause. All these processes helped me solve the problems confronting my team as well as myself.

Thank you for your attention and hope to discuss this application with you.

Yours faithfully,

Yi-Chi Chiu