MARWIN WONGJARUPUN

MRes Medical Device Design and Entrepreneurship - Imperial College London

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EDUCATION

Imperial College London **London, United Kingdom**
Master of Research Medical Device Design and Entrepreneurship *2023 - 2024*
- Classification: Distinction
- Modules: Medical Device Entrepreneurship, Computational and Statistical Methods for Research, etc.

University of Leeds **Leeds, United Kingdom**
Bachelor of Engineering (Hons) Electronics and Computer Engineering *2020 – 2023*
- Classification: Upper Second Class (2:1) Honors
- Modules: Embedded Systems, Distributed Systems, User Interface, Algorithms, etc.

WORK EXPERIENCE

DrPOM **Remote, Hong Kong**
Innovation Lead & Tech Specialist *June - August 2024*
- Prototyped user interface of remote patient monitoring app to connect with 5 medical devices
- Led 4 team members in direction of application based on market research and existing applications
- Created 1 market research report that outlined competitive advantage and expansion strategies

XR Bootcamp **Remote, Germany**
Prototyper *August - December 2022*
- Chosen as one of the 15 students for the Beyond Inclusion scholarship (out of 410 applicants)
- Created 5 VR games using C# programming and Unity VR to develop on the Oculus Quest 2
- Developed 1 multiplayer hide-and-seek prop game using Photon engine

University of Leeds **Leeds, United Kingdom**
Student Intern *June - October 2022*
- Added wireless functionality to hip simulator as IoT device to simulate on cloud platform
- Interfaced with Arduino Due with 32-bit ARM core microcontroller using C++
- Applied PWM signal to control stepper motors so that socket has 6 DOF

Chinese University of Hong Kong **Remote, Hong Kong**
Student Researcher *June – August 2022*
- Rapidly prototyped application using Unity, C#, and Oculus Quest 2
- Created Pong-like game to encourage stroke patients to perform exercises that improve brain function
- End product was tested on users after programme conclusion and showcased on tech forums

Shanghai Jiao Tong University **Remote, China**
Student Researcher *June – August 2022*
- Researched key technology in surgical robotics based on AI and augmented reality
- Investigated technology regarding 3D non-rigid registration of human liver using VTK and python

LEADERSHIP POSITIONS

MRes Medical Device Design and Entrepreneurship **London, United Kingdom**
Course Representative *2023 – 2024*
- Solved issues that arise in cohort through reporting to university
- Organised 10+ panel discussions and academic seminars from 15 medtech industry experts for cohort

Leeds Debating Union **Leeds, United Kingdom**
President *2021 – 2022*
- Hosted weekly debates with tailored topics with 200 members
- Facilitated collaborations between two societies regarding controversial worldly issues

MedTech Foundation Leeds **Leeds, United Kingdom**
Internship Officer *2021 – 2022*
- Communicated with research centres and medical technology firms
- Aided 5 regional centres in its setup through online marketing

UNIVERSITY PROJECTS

Microfluidic T-Cell Selection by Cellular Avidity *2023 – 2024*
- Completed 5-year business plan looking at market access, healthcare economics & financial forecast
- Researched technological background and studied the device's potential in cancer immunotherapy
- Designed CAD model prototype for syringe pump and cell sorter, controlled using Arduino Giga

Microfluidic Mixer at Imperial College Advanced Hackspace *2023*
- Designed in Fusion360 to be 3D printed (syringe inlets) and lasered (microfluidic channels)
- Utilised 8-wavelength spectrophotometer connected to Arduino Nano to detect mixing

Microfluidics Integrated Microwave Sensor Using Additive and Subtractive Manufacturing *2023*
- Designed, simulated and developed a microfluidic device that uses microwave sensors that detect, identify, and quantify reactions of fluidic and liquid solutions
- Incorporated additive manufacturing (ie. 3D printing) and subtractive manufacturing (ie. laser cutting)
- Designed and developed using CST Microwave Studio Design package

Advanced Calculator Using Tiva - C Series TM4C123G Board in Embedded Systems Module *2023*
- Interfaced with LCD and 4x4 keypad
- Implemented multi-layer keys and password functionality

Automated Monitoring System Using STM32L476RG in Embedded Systems Project Module *2022*
- Utilised light dependent resistor to turn on LED when dark for automated night light system
- Incorporated temperature sensor to sound buzzer when temperature goes over 25°C

Integrated Web Service Client in Distributed Systems Module *2022*
- Built application with own RESTful web services using Jersey and Java
- Implemented existing Youtube API to extract comments from video
- Integrated 3 web services with a client written in Python

GUI Design for Video Playing Application in User Interfaces Module *2021*
- Performed a PACT Analysis on prototype to scope possible requirements
- Iterated 5 Development Cycles Using Qt to create user interface design
- Evaluated cycles with potential users using cognitive walkthrough and heuristic evaluation

Digital Timer Using DE10 Lite Board in Microprocessors and Programmable Logic Module *2021*
- Written with Verilog to program FPGA board
- Programmed using sequential logic and test benches for functionality
- Applied logic table from binary to binary coded decimal to create timer function

Refreshable Braille Display in Digital Electronics and Microcontrollers Module *2020*
- Built using 6 solenoids and Arduino Uno
- Coded program that outputs braille characters according to input string
- Implemented safety features such as using diodes to prevent accidental discharge

TECHNICAL SKILLS

Python	C/C++	C#	CAD	Unity
Java	Git	MATLAB/R	Microsoft Word, Excel, PowerPoint, Teams	

LANGUAGE SKILLS

Fluent English and Thai
Proficient Chinese Mandarin (listening and speaking)

KEY EMPLOYABILITY SKILLS

Innovation – Pitch use of VR for children on the autism spectrum for pain assessment to industry leaders
Self-discipline – Learn Chinese and French throughout high school and university independently
Teamwork – Build fighter robot with teammates for Robot Fighting League

INTERESTS

Web Development: Deployed portfolio website at marwinwongjarupun.web.app *September 2023*
Human-Computer Interaction: Completed HCI Course by Georgia Tech edX *August 2021*
Machine Learning: Completed Stanford Coursera Course with modules in image processing *July 2020*
Piano: Merit in Piano Trinity Grade 6 and Distinction in Piano Trinity Grade 5 *June 2017*