Email Address: marleymcintyre@machatronics.com

Personal Website: http://www.machatronics.com

Skills

- **Robotics:** Have designed and constructed an autonomous robot car as a final year project and undertaken targeted education in the robotic field. Area's researched and utilized range from: A* Path Planning, PID/Fuzzy Control, Steering Systems and Camera Processing. Subsequently worked as a university robotics intern at Hochschule Merseburg where training was undertaken to operate and program heavy industrial robotic systems (ASEA Robotic Arm/Gripper). Some experience with ROS Network (utilising TurtleBot) and MATLab.
- **Computing:** Have been taught various programming languages (C, C++, RobotC, Basic, LADDER PLC), Have previously working in IT support and debugging for an international company. Have an acute knowledge of modern communication methods (i2c, RS485, RS232) and utilised multiple micro-controller systems ranging from TI MSP430, PIC Micros, Arduino and NXP FRDM-KL25Z.
- **Hardware:** Have constructed systems from simple circuitry to personal computers for leisure and hence have good knowledge of multiple hardware component functions, pros and cons, installation techniques and pricing.
- **Design Theory:** Have produced several final projects and modifications to existing commercial products which required initial consideration of; target market, device purpose, functionality, aesthetic design, ethical impact and sustainability. Designed backwards compatible software for commercial product iterations.
- **Communication:** Have repeatedly worked in and taken roles which require clear and concise language skills such as narrating customer support videos, demonstrations and product announcements. I have subsequent experience talking to and teaching children about engineering in my role as mentor and running university workshops aimed at encouraging children to take STEM subjects (Smart Stems).

Education and Certification History

Undertaken evening classes in Solidworks 3D modelling (2018-2019):
Can design and create 3D parts and assemblies with bill of material generation, continuously upscaling abilities in this development environment and continuing to seek further training and education in Solidworks.

Glasgow Caledonian University. July 2013-2017:
Computer and Electronic Systems Engineering (Robotics and Mechatronics), BEng(Hons).

Initially achieved a Certificate of Higher Education (CertHE) and a Diploma of Higher Education (DipHE) with distinction in Electronic Technologies. Degree achieved; an Upper Second Bachelor of Engineering (Honours) in Computer and Electronic Systems Engineering with specialisation in the field of Robotics and Mechatronics at Glasgow Caledonian University.

Modules undertaken include

- Integrated Project 1, 2 and Industrial Design Project 3
- Mathematics 1 & 2
- Engineering Design and Analysis 2 & 3
- Intelligent Robotics and Mechatronics
- Control and Instrumentation Systems 1 & 3
- Electrical Principles and Circuit Theory
- Digital and Programmable Systems 1 & 2
- Signals and Electronic Design Theory

Hyndland Secondary School, Glasgow.

SQA Highers 2011-2013

6 Higher passes and a level 6 National Progression Award; including English (A), Philosophy (B) and Chemistry (B).

Currently possess a 'Working with vulnerable persons and groups' (PVG) certificate

Work Experience

October 2017 – Current, Product and Design Engineer, Entrotec Ltd, Livingston.

Currently employed as a Design Engineer, designing (Solidworks, Visual Studio) and programming (C++, C, VBA) electronic products in the security sector. Also undertaking an adjacent role as Product Engineer where I research components, design schematics/BOMs for suppliers and production. Also, I am the primart actor for automating team communications and documentation creation to improve productivity towards engineering change requests and new product introductions. Also cover Entrotec's presence in both STEM outreach installation/product multimedia.

September 2016 – September 2017, GCU Student Ambassador for Robotics Engineering & STEM Subjects (ages 7-16).

Assisted with supplying course information alongside tutors, while also single handily running robotics workshops (RobotC/C) and providing programming/STEM mentoring. Helped to encourage children of their STEM abilities through teaching C programming using Lego Mindstorms and teamwork through robot designing and racing challenges.

June-September 2016, Hochschule Merseburg (University of Merseburg), Germany, Robotics Intern.

Undertook an IAESTE internship and training with the University of Merseburg in their robotic technologies department. Designed (Visual Basic) and programmed (C++, BASIC, LADDER PLC) a project utilising an ASEA Robotic Arm and was required to travel and stay for an extended time overseas.

August-January 2015-2016, Morrisons Ltd, Partick, Sales Assistant.

Have worked for Morrisons as a Sales Assistant where I was required to assist with store logistics and customer enquiries.

February-April 2014, Glasgow Caledonian University, Tele-fundraiser.

This required excellent people and vocational skills for communicating and building rapport with target donors while working in a highly competitive team towards hitting the goal of funding various community projects.

May-August 2013, DHL International Express, Customer Integration Management Support.

Was part of a team which was tasked with enabling customer communication and support with logistical integration procedures, error fixing and support.

Personal Statement

As a Design Engineer and Product Engineer in the security sector, I have encountered some interesting challenges ranging from: Designing and implementing testing rigs for manufacturing, implementing software based backwards compatibility between products with older chipsets and newer chipsets, developing multimedia skills to produce instructional documents and videos for manufacturers, installers and users, integrating new hardware designs into existing products. Each challenge proved to be rewarding as both a test of my abilities and as a learning process to improve upon others.

Previously, I studied Computer and Electronic Systems Engineering (Robotics and Mechatronics) at Glasgow Caledonian University where I developed skills in computer programming, electronic and mechatronic design to project management and market analysis. During that time, I designed systems ranging from an electronic medical wearable designed to help doctors to designing a miniature autonomous vehicle. I also have a deep interest in using my aforementioned skills in tandem with the softer skills I have acquired during my work career (presenting projects and products to maintaining a team's progress and morale as team leader).

Non-Technical Roles. Previously employed as both a mentor and Stem ambassador while assisting Glasgow Caledonian with their 'Smart STEMS' and 'Routes for All' programs. Part of my overwhelming success in this field was by deconstructing the impression of STEM being inaccessible and teaching children about robotics and programming using accessible technologies such as LEGO Mindstorms and Arduino to show them that even they can design and race Robots! Also undertook multiple student leadership roles at university, becoming chairman of the Computing, Electronic and Electrical Student/Lecturer Board and previously received a Glasgow 'Hammerman' award for engineering.

Travelling. I have previously inter-railed through Europe twice, which subsequently prepared me for working across Europe in places such as London and Germany. These experiences were a fantastic insight into living and working within these new environs and experiencing the differences between these metropolitan places. This travelling bug and previous career relocations are why I am happy to continue travelling as part of my career and live outside my current Scotland.

The Arts. I am a practising musician (guitarist) and have had the pleasure to play live on a couple of occasions. I am also an avid photographer and deeply enjoy taking images of the night sky due to my love of astronomy. My Interest in Photography also extends to film making which is an activity I have utilised during my career to modernise company documentation and marketing resources. Alongside my interest in inventing, in summary, I enjoy partaking in creative and imaginative undertakings!