William Lay

www.williamlay.co.uk

laywill@gmail.com | 07898 654454

182 Southdown Road, Bath, Somerset, UK, BA2 1JL

linkedin.com/in/laywill33

Electronic & Electrical Engineering Graduate

UNDERGRADUATE EDUCATION

MENG IN ELECTRONIC & ELECTRICAL ENGINEERING | University of Bath

Sep 2011 - Jul 2017 | 2:1 Class Honours with 1st Class Honours in Final Project

Fourth Year Modules

- Digital Image Processing
- Satellite, Terrestrial & Mobile Communication Systems
- Radar Systems & Remote Sensing
- Satellite Based Navigation Systems
- Advanced Microelectronic System Design
- Individual Final Project

Third Year Modules

- Digital Networks & Protocols
- Digital Audio & Signal Processing
- Digital Communications
- Spacecraft Systems Engineering
- Group Design & Business Project
- Microelectronic Systems

Second Year Modules

Electronic Devices & Circuits • Digital Systems Design • Signal Processing • Structured Programming • Electromagnetics • Communication Principles • Principles of Radio & Optical Transmission • Control Systems • Electrical Systems & Power Electronics • Group Design & Professional Engineering Practice 2

First Year Modules

Introduction to Programming in MATLAB • Mathematics 1 • Electronic Lab Techniques & Professional Engineering Practice 1 • Circuit Theory • Engineering Physics • Signals, Systems & Communications • Microprocessors & Interfacing • Digital Electronics • Mathematics 2 • Energy Systems & the Environment

PRIOR EDUCATION

A LEVELS AND GCSES | St Albans School

Sep 2004 - Jul 2011 | St Albans, UK

A Level

- Electronics [A*]
- Physics [A]
- Mathematics [A]
- Chemistry [B]

GCSE

- Achieved 12 A* grades, including Maths, English, Biology, Chemistry, Physics, and Electronics.

ACTIVITIES

University of Bath Students' Union 2017 winner of 'Outstanding Contribution to Societies' award.

BACKSTAGE TECHNICAL SERVICES | Chair and Crew Member

Sep 2011 – Present | University of Bath, Bath, UK

Backstage Technical Services is a society formed of students at the University of Bath, who provide technical expertise to other Students' Union Clubs and Societies and event organisers in Sound, Lighting and Stage Management.

Two years on Committee:
- 2012-13 - Production Manager
- 2016-17 - Chairman

Events include the Students' Union's Summer Ball and Freshers' Week, theatre performances from student and external performers, band and club nights.Events are located both on and off campus, encompassing full support from power distribution to set design and stage management.

I was technical manager for the largest live events on the calendar, and for numerous theatre events. I have been regularly appointed as head of a department and have lead teams of up to 40 other volunteers at a time.

SOCIETIES EXECUTIVE | Treasurer

Jun 2015 – Jun 2016 | University of Bath, Bath, UK

The Socieites Executive represents the interests of all members of Societies within the Students' Union to the staff and management. As joint Treasurer I ws responsible for signing off all invoices, Purchase Orders, and claim forms up to £500 that societies submitted to the SU.

I made improvements to the finance tracking system used, and despite no longer holding the Treasurer role continue to develop and maintain the system.

ENGINEERING PROJECTS

4K VIDEO STREAMING ON FPGA
Feb 2017 – May 2017 | University of Bath, Bath, UK

I designed a system using Altera QSys and System Verilog for Altera FPGA development boards to stream HDMI Video data over SFP Optical transceivers as part of a wider research project. This platform will be used to validate and measure the performance of a novel silicon transceiver in future.

FPGA BASED IMAGE PROCESSING FOR LANE DEPARTURE WARNING
Feb 2016 – May 2016 | University of Bath, Bath, UK

Designing and implementing a neural network and image filters for a car lane detection system in System Verilog for Altera FPGA. I was designing and implementing IP module interfaces, testbenches, and was Business Manager for the group.

IMAGE PROCESSING IN MATLAB
Oct 2016 – Dec 2016 | University of Bath, Bath, UK

I wrote filter functions from low level operations to understand the principles. Examples of filters implemented include: Weighted Mean, Median, and unsharp mask. Functions were tested for accuracy and speed against MATLAB's own functions.

DESIGN AND BUILD A LINE FOLLOWING CART
Oct 2013 – Dec 2013 | University of Bath, Bath, UK

I designed and built a small cart that detected and followed an AC current carrying wire around a track, amplifying, filtering and peak detecting signals from pick-up coils. An analogue controller was designed and implemented to control MOSFET controlled DC motors.

PREVIOUS EMPLOYMENT

SELEX ES (NOW: LEONARDO-FINMECCANICA) | Hardware Industrial Placement
July 2014 – July 2015 | Luton, UK

During my placement I worked in the Firmware department within the Electronic Warfare group, primarily on aircraft Defensive Aids Systems. My major projects and activities for the year were:

- Responsible for FPGA firmware development of a generic, highly reliably, efficient, SPI serial interface block of IP.
- Adapting existing firmware IP blocks and in-house software to create a generic debugger for FPGAs using a PC GUI connecting over Ethernet.
- Independent reviewer for three Firmware releases for modules of a flagship product.

UNIVERSITY OF BATH | Alumni Fund Telethon Senior Caller & Supervisor
Nov 2015 – July 2017 | Bath, UK

Senior Fundraising duties include supervising the calling room and helping organise the shifts. The position has built strong communication skills, with an ability to build rapport with people of all backgrounds and ages. Familiar with Smarteezie telephone fundraising software.

Student Employee Of The Year 2017 Regional winner and National finalist of 'Step Up To Leadership' award.

FREELANCE | Production Technician
Jul 2012 – Present | UK

- Work has included setup and operation of sound, lighting, power, video, truss/support structures and staging; as well as show technical management.
- Strict adherence to schedules, times, and requirements to deliver events on time and on budget.
- Regularly lead small teams as a head of department or show technical manager.

OTHER

- Current UK Security Check (SC) clearance
- Full UK Driving licence (B, B1, f, k, p)
- British Passport Holder
- DOULOS Comprehensive Advanced VHDL
- IPAF licence (3a, 3b, PAV)
- Fire Awareness trained
- PAT Electrical Safety Trained

LANGUAGES

PROGRAMMING

Experienced:
- MATLAB • Verilog
- VHDL • System Verilog

Intermediate:
- TCL • C • HTML
- LaTeX

Novice:
- CSS • Assembly for PIC
- Python • Shell / Bash

SPOKEN & WRITTEN

Native fluency:
English

Basic proficiency:
French

References available on request.