# *Joe Reader*

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## Profile

I am a quick learning and determined Electronic Engineer with a First Class honours degree from Coventry University seeking a full time engineering position. My main strengths are the speed at which I learn and apply skills and information, and my ability to problem solve. I have a varied skill set covering a wide range of engineering with experience working in the Automotive and Telematics industries. I believe I would be an ideal candidate because of the experience and skills gained during my years in industry, and because of the skills and knowledge within, Embedded Microprocessors, Communication Systems, Programming, Analogue and Digital Electronics and Advanced Electronics I have developed while at University.

## Technical Skills

- Understanding of Analogue and Digital Circuit Design, Development and Testing
- Familiar with Vector products CANalyser and CANoe
- Familiar with dSPACE ControlDesk, AutomationDesk and hardware
- Familiar with Mathworks Matlab and Simulink for design and testing
- Knowledge of VHDL implementation and Testbench testing
- Knowledge of Multisim circuit simulation software and PCB design
- Familiar with C/C++/C#/Java/Python/VisualBasic/SQL Programming Languages
- Familiar with Microsoft Visual Studio, Visual Basic and Office products
- Knowledge of UML conventions and familiar with UMLStudio
- Knowledge of PIC Micro Controllers, Programming and Circuit Implementation
- Knowledge of MPLAB and Proteus Integrated Development Environments
- Understanding of Control Systems, Controller Tuning, Instrumentation, Accuracy and Sensitivity
- Understanding of Communication Systems, Signal Modulation, Encoding, Decoding, RF Circuits
- Knowledge of Smartphone Applications, Design and Android Development (Java)
- Knowledge of CAD software, Autodesk Inventor, AutoCAD
- Knowledge of Engineering Drawing Standards, BS8888
- Understanding of Computer Architecture and Networks
- Awareness of Commercial Aspects of an Engineering Organisation
- Understanding of Pneumatic and Hydraulic Systems and Devices

## Work Experience

Vehicle Software Engineer
Trakm8 Ltd June 2016 – Present
I am currently working as part of the Vehicle Engineering Team at Trakm8's main research and production site. My main responsibilities include; Reverse engineering vehicle communication and diagnostic systems, Testing and validating firmware used in telematics devices, Developing in-house software tools, Testing and developing system wide processes involving Cloud and Linux based services, Developing test benches and equipment for a range of electronic equipment, Designing and sourcing PCB's and electronic components.

Digital Development and Vehicle Test Engineer (Internship)
Nissan Technical Centre Europe August 2014 – September 2015
I worked as part of the Digital Development and Vehicle Test team in the Electronics Engineering department. My main roles included the design, development and utilisation of electronic test benches for numerous automotive electronic parts and systems. I worked primarily with dSPACE hardware and software, utilising Matlab and Simulink to build interfaces and then automate testing. The role included other responsibilities one of which was to perform physical testing on new and prototype vehicles to ensure the electronic systems were performing as expected.

## Project Work

Vehicle Diagnostic Tool Development

This project involved developing an in-house diagnostic tool from a pre-existing prototype to an enclosed PCB. It required validating and improving the specification, designing and sourcing the components and PCB, then assembling, programming and testing the finished design.

Dissertation Project – DOTS

The project undertaken for my dissertation was a Deployable Optical Transient Station. The DOTS was intended a remote observatory for Gamma Ray Burst observations and Near Earth Object detection. It involved developing a communications system, motor control system, moving object detection system, co-ordinate conversion system and overall control system.

Digital Electronics Project

This second year individual project required designing and testing a sequential logic circuit using JK flip flops. It involved using Karnaugh and Excitation maps and De Morgan's theorem to deduce a minimal expression for the output, this circuit was then implemented and tested on Multisim. The specification was then met and implemented using VHDL and a testbench was written to demonstrate it functioned correctly.

Systems Project

As part of a group this first year project was to design a circuit that converted slow pulses of light into electronic pulses at TTL voltage levels. Then use those voltage levels to control an 8 segment display. The circuit incorporated a Light Dependant Resistor, an Operational Amplifier, and a 68CH12 micro controller. This required team work, and good communication between the group members. The project required designing and testing the circuit on Multisim then producing a working circuit on a breadboard. Developing a program in C using MPLAB IDE was required to control the display. The fully functioning system was then built and tested.

Embedded Microprocessors Project

The task of this second year group project was to design a program in C and produce a hardware implementation and PCB design for a small line following robot. The task involved using a PIC184520 micro, Stepper Motors and a Darlington Driver. My task was to design, develop and test the program, Proteus 8 IDE was used and physical testing was required. This project required lots of communication and teamwork with the other member of my group who was tasked with producing the PCB design and the hardware implementation.

## Education

Coventry University – September 2012 – May 2016

First Class Electronic Engineering BEng (Hons) Degree

Including Year in Industry at: Nissan Motor Company Ltd

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| Degree Modules include; | Analogue and Digital Electronics | Embedded Microprocessors |
| Communication Systems | Programming for Engineers | Control and Instrumentation |
| Object Orientated Software | Advanced Digital Systems | Advanced Electronics |

Nuneaton & Hinckley Technical College – September 2009 – July 2011

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| BTEC Level 3 Engineering | – Distinction Distinction Merit |
| Maths A/S | – D Grade |

King Edwards VI College – September 2005 – July 2007

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| Physics A2 | – D Grade | Psychology A/S | – C Grade |

Bablake School – September 1999 – July 2004

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|---|---|---|---|---|---|---|---|
| 8 GCSE's in; | Information Communication Technology | – A | | | Craft Design Technology | – B | |
| | Physics | – A | Maths | – B | Religious Studies | – B | |
| | Chemistry | – C | Biology | – C | English Language | – C | |

## References

Available upon request.