

Curriculum Vitae

Contact Details

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Previous Employment

Metrology Software Products, Ltd.
August 2016 – September 2025

Software engineer working on technology which optimises the performance of coordinate measuring machines (CMMs) and CNC machine tools.

- Full stack development on MSP's signature product, NC-PerfectPart, for optimising workflow with CNC machine tools (C++/XML/SQL).
 - Added features to improve automation with internal and external systems.
 - Improved user interface to reflect modern standards.
 - Revised and maintained report generation system to improve customer understanding of machine tool performance.
- Maintained AutoClock product (C++/HTML/JavaScript)
 - Redesigned and improved existing front-end to improve portability and ease of use.
 - Added support for WiFi station mode, allowing the device to be used independently from company networks.
 - Created fully functional emulator, negating needs to test on real hardware.
- Maintained UCCServer and EquatorServer products, deployed globally to interface with coordinate measuring machines (C++/XML).
 - Improved existing front-end for ease of use.
 - Added support for new products (probes, racks etc.)
- Produced many internal tools and scripts to ease product development (C++/Python/HTML/JavaScript)
 - Created CNC language translation tools.
 - Created extensive static analysis tools for C++ code.
 - Created CNC/PerfectPart error checking scripts for both internal and external use.
- Maintained internal systems and libraries

- Vastly increased testing scope, creating a huge number of unit tests and manual test data.
- Optimised existing libraries, removing inefficient legacy code and unnecessary dependencies, improving build and test times.

Clients included world-leading aerospace firms and Formula 1 teams, among others across a variety of industries. Product improvements helped industry avoid potentially £millions in scrapped parts.

Wolf Consultancy Ltd.
July 2015 – June 2016

Software developer working on a number of varied projects (in multiple programming languages) for external clients ([C#](#)/[SQL](#)/[Swift](#)/[JSON](#)).

Self-employed
2012 – December 2014

Self-published home-made video game "Quackers Against Crusades" for Android devices. Made available via the Google Play and Amazon App Store online retail outlets ([C++](#)/[Java](#)).

Seaton Deleval Hall
July 2014 – August 2016

Volunteer gardener at Seaton Delaval Hall, Northumberland.

Freelance
February 2014

Developed the official Radio Northumberland app, aggregating Facebook and Twitter feeds alongside the station's audio stream ([JavaScript](#)/[Android](#)).

R1 Electronics, Ltd.
March 2013 – September 2013

Software Designer, programming Raspberry Pi software for use in smaller bingo halls ([Python](#)).

Bedlingtonshire Community High School
May 2013 – June 2013
May 2012 – June 2012
May 2011 – June 2011
May 2010 – June 2010

GCSE and A-Level exam invigilator, part time over multiple exam seasons.

Betterware
July-December 2010

Betterware sales distributor, responsible for the distribution and collection of Betterware catalogues, products and money.

Northumberland County Council
Highways Laboratory
May 2005

Two week work experience digging up roads.

Computing Skills

- Languages:
 - C++ (MFC, SDL 2.0, OpenGL (ES), Ogre3D)
 - Python
 - JavaScript (HTML5/CSS3)
 - Java (Android)
 - SQL
 - C# (.NET, WPF, MVC, MVVM, XNA 4.0)
 - Swift (iOS)

- Objective-C (iOS)
- XML, JSON
- Software experience:
 - Microsoft Visual Studio (and Team Foundation Server)
 - Microsoft Visual Studio Code
 - Git
 - Paint.NET
 - NotePad++
 - Eclipse
 - Android Studio
 - XCode
 - Code::Blocks
 - Microsoft Office and others.
- Experience with Microsoft Windows, Mac OS X and Linux (Fedora/Ubuntu, Raspberry Pi)
- Worked with machine tool simulations
- Built a published video game from scratch in C++ and ported it to Android.
- Developed Android-based bingo applications for use in bingo halls.
- Developed partially-finished game for GP2X Caanoo platform

Qualifications

Bachelor of Science Degree in Computer Games Programming (with honours)
 From Teesside University (2012)
 Grade 2:1

Certifications:

- Google AI Professional (May 2026)
<https://www.coursera.org/account/accomplishments/professional-cert/certificate/0A9CYDHXMRAD>

A-Levels (4) (2009):

Art & Design	B
Physics	D
Mathematics	D
Computing	E

GCSEs (9½) (2007):

Science (Double Award)	AA
English Language	A
English Literature	A
Art & Design	A
Mathematics	B
Citizenship (Half GCSE)	B
Business Studies	C
DT Graphic Products	C
German	C

- CRB Enhanced disclosure issued by Northumberland County Council.
- Driving licence and car owner.

Interests

I am a highly knowledgeable video game enthusiast with an interest in virtually all elements of video game production, genres and platforms. Ask me anything about Sega.

I have a keen interest in politics, business and world affairs, as well as science and technology and the wackier side of popular culture (and indeed "unpopular" culture).

References

Marianne Whitfield
Director of Development
Metrology Software Products
marianne whitfield@mspltd.com