

Alex McLellan

Software engineer with over a decade of programming experience.

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Nationality

British

Driving Licence

Full UK - No points.

MOD Clearance

July 2008 - September 2013.

Security Clearance (SC)

EDUCATION

DURHAM UNIVERSITY

BSc (HONS) IN COMPUTER SCIENCE

2007 | St.Aidans College

Undergraduate Coursework

Software Engineering

• Project Management • Requirements Engineering • HCI • Software Design • Software Life-cycles • Documentation

Applied Computing

• Compiler Design • 3D Graphics • Databases • Concurrent Systems

Theoretical

• Foundations of Computer Science • Data Structures • Theory of Computation • Specification and Verification • Distributed Systems • Parallel Systems • Concurrency and Concurrent Systems

Artificial Intelligence

• Automated Reasoning • Advanced Information systems • Multi-agent systems • Advanced Topics in AI
Dissertation Topic
• Learning Strategies in Games
(Research into Reinforcement Learning)

NEWCASTLE-UNDER-LYME COLLEGE

Grad. May 2004 |

Newcastle-Under-Lyme, UK

National Diploma in ICT

ST JOSEPH'S COLLEGE

Grad. 2002 | Stoke-On-Trent, UK

GCSE including Maths and English

LINKS

Github:// [AlexMcLellan](#)

LinkedIn:// [Alexander McLellan](#)

Stack Overflow:// [alex-mclellan](#)

EXPERIENCE

An interviewee at ZephIR remarked that the job specification was extremely broad. Employees in the software engineering department are expected to have experience with the whole stack, from low-level hardware and firmware, numerical processing to high level GUIs and everything in-between.

I like to think this describes my skill set. My experience covers a significant number of domains; GIS skills, cutting edge web development, low level hardware, networking, encryption, numerical processing, extremely large databases, desktop GUIs and more.

ZEPHIR LIDAR | SOFTWARE ENGINEER

May 2012 – Current | Malvern, Worcestershire, UK

Responsibilities

- Writing and debugging Software.
 - Firmware - Multi-threaded C++ and C with experience of 256-AES Encryption, Boost, UDP, FTP, many more.
 - Hardware interfaces - DSP comms and other devices over RS-232 and RS-485.
 - GUI - Winforms C# using CLI/C++ and QT using Python.
 - Scripts - Python, Bash and Batch.
- Supporting Mathematicians with Python and C++ in the R&D department.
- Supporting and liaising with customers.
- Covering when other senior staff are away.
- Interviewing software engineering candidates.

Experience

- Numerical software
 - Writing best practice numerical (LMA fitting) code using SIMD and IEEE 754 floating point.
 - Fixing numerical stability issues in legacy code.
- Project lead – Requirements capture, design, implementation, testing, delivery, documentation and presentations.

Achievements

- I wrote a C++ framework which now underpins new firmware and desktop applications.
- Implemented new suits of software to automatically calibrate and test hardware and allows the end-user to analyse the output to determine potential issues.
- Introduced git to the company, by using it myself with git-svn, and now the development team has switched exclusively to git.
- Implemented next generation algorithm to determine wind speed and led an investigation into its accuracy vs other methods.
- Led the unforking and merging of two significantly sized applications.
- Restyled the main Winforms application from a Photoshop render and improved the GUI code.
- Contributed patches for opensource libraries which contained broken features. Such as **cURL**.

TRIAL STARTUP | FOUNDER

October 2011 – April 2012 | Brides-Les-Bains, France

- I partially developed a boutique search engine while learning Natural language parsing, ElasticSearch, backbone.js, Node.js and CoffeeScript.

SKILLS

PROGRAMMING

Daily:

C++ • C/C++ • Python

Experienced:

• C • C# • HTML • Javascript • CSS • CoffeeScript • L^AT_EX • SQL • PL-SQL

Familiar:

Assembly • Java • Android • Haskell • Node.js • Mathematica • XML • XSLT

TOOLS

Visual Studio • Bash • Vim • PyCharm • Git • SVN • Gitlab • Jenkins • Star UML • Starteam

OPERATING SYSTEMS

Windows - Powershell, Services,
Linux - Bash, cron, etc

INTERESTS

CYCLING Mountain and road.

SKIING I spent a season in France skiing, and I typically ski once a year (if I'm lucky).

BUILDING Restoring my grade II listed home.

POLITICS I'm a member of a political party and I'm interested in environmental & local issues.

COMMUNITY

MALVERN TOWN COUNCIL | COUNCILLOR

June 2013 – May 2015 | Malvern, Worcestershire, UK

- Debating.
- Writing motions.
- Staff appraisals.
- Chairing meetings.
- Leading and contributing to community projects.

ENVITIA | SOFTWARE ENGINEER

July 2008 – September 2011 | Horsham, West Sussex, UK

Responsibilities

- Writing and debugging Software.
 - Server side - Multi-threaded CLI/C++, C++ and C, and PL/SQL on Oracle databases.
 - GUI - MFC and web-development.
- Supporting and liaising with customers.
- Deputy fire marshal.

Experience

- Back-end
 - Maintaining, Optimising and developing the main Oracle database.
 - Developed sophisticated scripts in PL/SQL.
- Desktop
 - Developing various tools for the large set of inputs, outputs and users that the system has.
 - Maintaining the main desktop application.
- Web
 - A developer on a team of 2, which created a online version of the desktop ITS tool the company sold. Needed to be compatible over a range of browsers, such as Microsoft IE6.
 - Created many other tools and maintained a existing products.
- System control
 - Experience with controlling hardware, such as VMS signs over SNMP.
- Geospatial skills
 - Experience with creating maps of various areas, with different features, from different datasets with varying co-ordinate systems and datums.
 - Developing and maintaining tools to interact with GIS features.
- Supporting and liaising with customers such as manufacturers and County councils.

TEST HOUSE | NON-FUNCTIONAL CONSULTANT

September 2007 – July 2008 | London, UK

- Non-functional testing of large enterprise e-commerce websites.
- Training other consultants with the C language used for load testing.
- Gained ISTQB-BCS qualification.

DURHAM STUDENT UNION | BARTENDER

June 2006 – April 2007 | Durham, UK

- Excellent customer service.