

Name : Dr. Michael S. A Robb

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Summary: Research programmer/engineer with over ten years experience with OpenGL, five years experience writing GPU shaders. Experience includes applications development for using OpenGL, X-windows/Motif, multi-threaded C, C++, Qt and MFC, as well as assembly language and Cg/GLSL.

### Skills and Experience

Operating Systems: Windows 95/98/NT/XP/Vista,  
Linux (Red Hat, Fedora, Knoppix and others)

GUI API: Microsoft Visual Studio, C++, QT, X-windows/Motif  
Programming  
languages: C/C++, Cg/GLSL GPU languages, 80386 assembly

Multithreading: pthreads, CUDA

### Work Experience

Moving Picture Company (Soho, London) – May 2010 to June 2010 – Graphics Programmer

Responsible for the development of a 3D graffiti paint system for a high-end 3D television system using ARtoolkit (augmented reality toolkit). Software was written in C++, STL, OpenGL and Microsoft Visual Studio.

Sun Microsystems (Menlo Park, California) – June 1996 to June 2001 - Software Engineer

Responsible for the the on-going support of Sun's 3D API XGL for the FFB workstation until XGL was replaced by OpenGL, within a team of thirty members of staff. All software was written C++, with the device driver layer written in C.

Gray Matter (Oakville, Ontario) - October 1994 to January 1996 – Software Engineer

Responsible for the design, implementation for the character animation editor used by the NHL Hockey title. All software was written in C and designed to use a combination of X-Windows/Motif with OpenGL and SGL. Duties included interaction with programmers and artists to add requested features.

Spider Systems (Edinburgh, Scotland) – July 1992 to November 1993 –  
Software Engineer

Responsible for the design and implement of the SNMP statistics analysis module for embedded systems used to perform network monitoring on Token Ring networks. All embedded system software was written using C and 80x86 assembly language and cross-compiled using on a UNIX development platform.

Rare Limited (Twycross, England) – November 1991 to July 1992 - Programmer

Responsible for the ongoing development and support of Rare's inhouse character animation and map editor for SNES and Sega Saturn console systems. Duties included communicating with programmers and artists to add new features such as palette color-cycling, map tile selection and TIFF file handlers.

### Education

Heriot Watt University - June 2002 to Dec. 2009 – Ph.D. Computer Science

Successfully completed an eight-year ESPRC funded Ph.D degree with the TextureLab team. The goal of this project was to investigate the use of GPU boards to visualize textures of textiles acquired using photometric stereo techniques.

Responsibilities included being responsible for the 3D visualization component of the application using OpenGL and GLSL. All source code for the real-time tessellation of parametric surfaces was implemented in C++ and OpenGL. The thesis is available online at:

[www.ros.hw.ac.uk/bitstream/10399/2310/1/RobbMSA\\_1209\\_macs.pdf](http://www.ros.hw.ac.uk/bitstream/10399/2310/1/RobbMSA_1209_macs.pdf)

Also responsible as a co-author for two research papers:

<http://dx.doi.org/10.1108/09556220410520351>

<http://www.informatik.uni-trier.de/~ley/db/conf/vvg/vvg2003.html#RobbSCT03>

Edinburgh University- Oct. 1993 to Oct. 1994 – Msc. Computer Science

Completed a one year course with modules based towards ASIC design and parallel processing. My thesis based on the real-time visualization of 3D particle systems. All software was written in C++ and ran on both Sun workstations and PC systems.

Robert Gordon University – Sep. 1991 to July 1992 – Bsc. (Hons) Computer Science

Completed the Honours year of the Computer Science course. Course modules included Real Time Systems (multi-threaded programming), Computer Graphics, Advanced Hardware Engineering and Computer Architecture, Artificial Intelligence and Expert Systems. My Honours year thesis was based upon real-time 3D animation using a 24-bit colour Hercules Graphics Station Card running TIGA.

Robert Gordon University – Sep. 1986 to July 1991 – Bsc. Computer Science with Commendation

Completed the ordinary degree year of my Computer Science course. This was a four year course with a one year industrial placement year. My industrial placement year was spent working for British Telecom in Aberdeen with various software projects being written in C for 80286 branded PC's. Course modules include Software Engineering using C, Hardware Engineering