David Paul Beynon

Summary:
C/C++, Graphics, Visualisation, Visual C++, MFC, Windows, Macintosh, Unix, UML based object oriented design.

Current job title: Software engineer
Address:
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DOB: 30th July 1975
Availability: Subject to notice.

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Nationality: British

References: Available on request.

Education:
Degree: Computational Physics Bsc(Hons) from UMIST, Manchester.
A-Levels: Physics, Mathematics, Chemistry, Further mathematics.

Key skills:
Programming languages and APIs:
- C, C++, Python, Erlang
- Multi threaded software development using Windows and POSIX threads
- MFC, COM, Windows API, Qt, POSIX

Development:
- Graphics: Ray tracing, Image Processing, Global illumination algorithms, threads, OpenGL, Shading
- Design: UML, design of concurrent algorithms
- Internet: HTML, Sockets API

Software:
- Operating systems: Windows (Win 7, Vista, XP, 2000, NT), Unix (Linux, Solaris, Irix, HP/UX, MacOS X, POSIX)
- Development: Microsoft Developer Studio, MagicDraw UML, Intel VTune profiler, PC-Lint, Xcode, UNIX tools
- Source control: ClearCase, Perforce, Mercurial, Microsoft Visual Source Safe, RCS
- Office: MS Word, Excel, Outlook, PowerPoint, LaTeX

Employment history:

March 2006 – present: **Software Engineer, Parametric Technology Corporation.**
- C++ based development of software suite for mechanical CAD visualisation
- Supported platforms include:
  - Microsoft windows and UNIX
  - UNIX platforms include: Solaris, HP/UX and Linux
- Responsibilities include:
  - Design and development of new software
  - Maintaining existing code base
- Projects include:
  - Development of interactive object selection system allowing for easy manipulation of mechanical parts, geometrical entities, notes and other user markup
  - Development of 3D navigation tools for large model exploration
  - Design and development of a search engine for processing geometrical and metadata queries in large engineering data sets
  - Development of interactive 3D measurement tools
  - Development of a unified indexing system to track disparate types of objects used by selection, measurement, grouping and search systems
  - Working on a system to manage cross references between geometrical and schematic representations of electronic component
  - Improvement of concurrency utilities

October 1999 – February 2006: **Senior Software Engineer, LightWork Design Ltd.**
- C/C++ based development of photo-realistic 3D rendering software
- Supported platforms included:
  - Microsoft Windows, UNIX and Macintosh
  - UNIX platfroms supported include: Linux, Solaris, Irix, HP/UX and AIX
- Responsibilities included:
  - Design and development of new software

- Monitoring current research trends
- Selection and development of algorithms
- Drafting customer documentation
- Maintenance of a large existing code base
- Providing assistance to customer support department
- Evaluation of third party software
- Supervision of external contractors
- Writing and maintaining internal coding standards
- Projects included:
  - Design and implementation of a module to provide "final gather" functionality, which can be used to substantially improve the appearance of lighting simulations
  - Design of parts of a "photon mapping" module for lighting simulation
  - Development of a real-time shading architecture compatible with "Cg" and "GLSL" hardware shading languages
  - Development of a multi-pass rendering architecture to support interactive rendering with shadows and other effects
  - Development of non-photorealistic "sketch" rendering software
  - Development of a number of "shaders", for a wide variety of material and lighting effects
  - Development of a set of cross platform memory monitoring & debugging tools. These have lead to a reduction in memory usage in many areas, the elimination of a number of memory leaks and improved stability
  - Design of a copy protection mechanism for content licensing
  - Development of various internal tools, including content creation and demo applications
  - Development of a number of tools for internal use
  - Supervision of external contractors involved in a MacOS X porting project

May 99 - Sept 99: **Software Developer, ANC Ltd.**
- C, C++ and Visual Basic development of software for parcel delivery industry
- Projects included:
  - Design of embedded software for symbol 3100 series data acquisition terminals
  - Design of desktop item tracking software for warehouse & clerical staff, using MFC, VB & ODBC
  - Miscellaneous file processing utilities

March 1998 – May 99: **Software Engineer, ACT Financial Systems Ltd**.
- C++, Visual Basic and COM development of "back office" software for financial settlement processing
- Development included:
  - Cross platform C++ batch processing system for Windows NT, Solaris and HP/UX systems
  - SQL & stored procedures on Oracle and Ingress databases
  - Visual basic interface development

Jan 1997 - Feb 1998 : **Software Engineer, netFusion Ltd.**
- C++/MFC development of a network analysis & simulation tool for Windows NT

Other interests:
Technical:
- Development of a high dynamic range image processing tool kit for photography, including creation of new image processing algorithms.

Non Technical:
- Outdoor pursuits including climbing, walking, cycling, skiing & photography
- Ancient History