

Nathan Woodward

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Software Engineer, Birmingham, UK

SUMMARY

C++ developer of 10+ years experience working with complex legacy code in 3D applications. Emphasis on good engineering practices coupled with pragmatism. Keen interest in game development.

EXPERIENCE

- 2012- Autodesk, Birmingham, UK Senior Software Engineer
- PowerMill, Fusion360
 - Maintenance and feature work in large and complex legacy C++ codebase dating back to the late 1980s.
 - Technical leadership within a 7-person scrum team. Collaboration across multiple teams within a large organisation.
 - Breadth of experience. Responsibility for a variety of projects from specification, through to design, implementation and maintenance, e.g.
 - o **Extraction and porting of legacy desktop application toolpath calculation engine** to new products and platforms, **subsequent integration of third party system** using established architecture and infrastructure
 - o Design and implementation of **security model for in-house scripting language**
 - o Data model and graphical representation for **2D machining features** using same algorithms as toolpath calculation
 - o **Ribbon UI customisation** integrated with internal command-driven UI paradigm and scripting language

PROJECTS

See nathanrw.dev/projects for details of *spare time* projects such as:

- ‘space game’ Arcade space shooter in Python. Custom ECS. Abstract rendering architecture with software and OpenGL implementations. Targeting low-end netbook hardware. ImGui using ‘nuklear’ C library.
- ‘nuklear-cffi’ Automatically generated Python binding of ‘nuklear’ ImGui C library. Simple technique for this.

EDUCATION

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| 2009-2012 | University of Birmingham | BSc Computer Science (2:1) |
| 2007-2009 | King Edward VI College, Stourbridge | A Levels: Mathematics (B), Computing (A), Physics (A)
AS Level: History (A) |

ETHOS

Simplicity. Pragmatism.
Researching the correct approach. **Exiting vim.**

DOMAINS

Regularly: Desktop Applications in C++, CAD-CAM, Computational Geometry, Build systems, Agile, TDD, CI/CD, OOP

Sometimes: Graphics, Game Development

PROGRAMMING LANGUAGES

Regularly: C++, CMake, Python, Bash, Groovy

Sometimes: C#, C, Go, Make

TECHNOLOGIES

Regularly: Arcane and/or ancient in-house geometry libraries, toolpath calculation engines, graphics pipelines, scripting languages, application frameworks etc., MFC, Build systems, Jenkins, Git[hub]

Sometimes: OpenGL, Unity

HUMAN LANGUAGES

English