Nathan Crews

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Professional Summary

Accomplished Senior Software Engineer with over 25 years of experience architecting and developing high-performance software solutions. Specializes in C++, C#, 3D graphics, and CAD systems, with recent expertise in Unreal Engine 5. Proven track record of leading product development from concept to launch, driving international open data standards, and delivering robust commercial applications for the civil engineering, AEC, and gaming industries. A recognized founder of the LandXML.org standard.

Core Competencies

Languages: C++, C#, JavaScript, HTML/CSS, Blueprints (Unreal Engine), SQL, Python, XSLT, VB/VB.NET

Senior Software Engineer | NCrews Software | December 2023 – Present

Architected and developed QMLForMFC*, a comprehensive library enabling the migration of legacy MFC applications to modern Qt/QML, supporting complex dialogs, toolbars, and dockable panes.

* Engineered full-stack web applications for geospatial image mapping using JavaScript, HTMX, & Node.js.
* Developed C++ tools for 3D visualization and point cloud processing utilizing OpenGL, GLSL, and Open3D.

Software Director, Precision 3D Team | Carlson Software | January 2014 – November 2023

Led the full product lifecycle for Carlson Precision 3D*, a flagship 3D CAD software for surface modeling, point cloud editing, and hydrology, guiding its strategic direction and feature roadmap.
Developed C++ and Blueprint features for Unreal Engine 5*, focusing on real-time import and editing of large-scale CAD data for the Carlson Hydrology Engineer gaming product.

* Developed high-performance point cloud processing tools and analysis algorithms, significantly enhancing product capabilities and performance.

Senior Software Engineer | Itron/Maine Central Power | March 2012 – December 2013

* Engineered and optimized high-performance distributed computing solutions for enterprise utility clients, scaling to maximize hardware resources on Windows Server with Oracle and SQL Server backends.
* Developed and debugged C# and ASP.NET applications, improving the performance and reliability of energy data processing systems.

Senior Software Engineer | Logos Technologies | April 2011 – January 2012

* Developed C++ and Java-based client/server software for streaming video playback on 3D geospatial platforms (NASA World Wind) across both Linux and Windows environments.

Senior Principal Software Engineer | Autodesk | March 1997 – April 2011

Founder and Principal Author of the LandXML.org standard*, an international data interoperability format for Civil Engineering, Survey, and GIS adopted worldwide. Evangelized the standard globally.
Spearheaded the first-ever integration* between AutoCAD-based engineering software and Google Earth by developing a C++ plugin to publish civil engineering data for 3D visualization.
Designed and implemented a C# .NET and C++ COM-based 3D visualization tool for LandXML, showcased by Microsoft at the official .NET launch event*. Represented Autodesk in the ECMA OpenXPS standards body, successfully proposing and specifying the 3D graphics component* for 3D visualization and printing.
Led the design and implementation of LandXML-based survey data import/export modules for Civil 3D using C++/STL/MFC.

Industry Leadership & Open Standards

* Founder & Principal Author, LandXML.org: Established the international data standard for civil engineering and survey data exchange.
* B.S. Physics (In Progress), UNC-Charlotte, NC