

Zach Ezzell, PhD

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zachezzell.com

I'm a curious, design-minded engineer with a focus on graphics systems and C++. My experience as an engineer and leader spans desktop, web, and a variety of engines and frameworks.

Education

2012. Ph.D. Computer Engineering. University of Florida.

2012. M.S. Computer Engineering. University of Florida.

2006. B.S. Digital Arts and Sciences. University of Florida.

Work Experience

Engineering Manager (Graphics and Geometry). Aurora Solar.

4/2023 - 11/2025. Led a team of graphics and geometry engineers that owned the core engine and algorithms driving Aurora's web-based CAD tools. Collaborated with Product, Design and senior leaders on feature and technical roadmaps.

Senior Software Engineer (Graphics). Aurora Solar.

6/2021 - 4/2023. Implemented 3D UI and new rendering modes. Added testing infrastructure to improve quality and speed of graphics tests. Improved performance of pages with multiple CAD views. Served as tech lead and advised on feature and technical roadmaps. Languages: JavaScript, TypeScript, C++, GLSL.

Senior Software Engineer (Graphics and Charting). MathWorks.

5/2017 - 5/2021. Expanded MATLAB's charting infrastructure. Designed novel chart layout algorithms and user-facing APIs. Led long-term cross-functional effort to improve chart visual design. Languages: C++, MATLAB.

Software Engineer (Rendering). MathWorks.

5/2015 - 5/2017. Improved infrastructure for MATLAB's desktop and web renderers. Optimized rendering and interacting with large datasets (10x speed and memory improvement). Implemented GPU-based hit testing. Languages: C++, JavaScript, GLSL, MATLAB.

Chief Technology Officer. NeuroNet Learning (Startup).

3/2013 - 5/2015. Managed developers and animators building NeuroNet's educational games. Defined user experience and coded core modules for product suite. Developed R&D game that tracked player movement using the Kinect. Languages: C#, C++, HLSL.

Developer. University of Florida.

8/2012 - 8/2013. Developed architecture visualization that streamed in simulation output. Developed interactive 3D visualization of energy usage across campus. Languages: C++, HLSL

Research Assistant. University of Florida.

8/2008 - 12/2012. Built software for funded research projects. See www.zachezzell.com for more.

Select Publications

Ezzell Z and Fishwick P A (2017). Building dynamic 3D visualizations through ontology-guided interactions with domain knowledge and simulation models. Journal of Simulation. Palgrave MacMillan.

Ezzell Z (2012). A unified human interaction-based theory and framework for simulation modeling and visualization design. PhD Thesis. University of Florida.

Ezzell Z, Fishwick P A, Cendan J (2011). Linking simulation and visualization construction through interactions with an ontology visualization. Proceedings of the 2011 Winter Simulation Conference.

Ezzell Z, Fishwick P A, Lok B, Lampotang S, Pitkin A (2011). An ontology-enabled user interface for simulation model construction and visualization. Journal of Simulation. Palgrave MacMillan.