Zach Ezzell, PhD

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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 - Present. Manage a team of graphics and geometry engineers. My team maintains and evolves the core graphics engine and geometric algorithms behind Aurora's CAD tools.

Senior Software Engineer (Graphics). Aurora Solar.

6/2021 - 4/2023. Improved Aurora's WebGL-based graphics engine and graphics testing infrastructure. Prototyped rendering improvements.

Senior Software Engineer (Graphics and Charting). MathWorks.

5/2017 – 5/2021. Maintained and expanded the architectural layer that connects low-level graphics primitives to high-level charting features. Also led projects to improve chart layout and chart visual design in MATLAB.

Software Engineer (Rendering). MathWorks.

5/2015 – 5/2017. Improved architecture and performance of MATLAB's OpenGL and WebGL-based renderers.

Chief Technology Officer. NeuroNet Learning (Startup).

3/2013 – 5/2015. Led development of NeuroNet's educational games. Worked closely with CEO and board members to define product road maps. Managed developers and an animator. Coded core modules for various Unity-based products. Managed R&D efforts for games that leveraged Microsoft Kinect and speech recognition technologies.

Developer. University of Florida.

8/2012 – 8/2013. Developed an interactive architecture visualization that connects to executing simulations and visualizes simulation output within the environment. Developed an interactive 3D visualization of energy usage across the University of Florida.

Research Assistant. University of Florida.

8/2008 – 12/2012. Built software for various funded research projects and prototypes. Some of this work is featured on my website: zachezzell.com

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.