

Perry L Miller IV

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Summary

I am a Mechanical Engineering PhD that loves writing software. My focus has been on friendly user-interfaces, modern application architectures, and high-performance 3D graphics, for CAD, CAE, GIS, and scientific visualization. My experience includes software companies, defense industry, startups, and academic positions.

Computer Skills

Years	15-20	10-15	5-10	1-5
Languages	C++, C	JavaScript	TypeScript, HTML, CSS	C#, Python, SQL, PHP, Fortran
3D Toolkits	OpenSceneGraph		WebGL, OpenGL	WebGPU
UI Toolkits		Qt	React, MFC, Win32	Electron, MUI, React Native
Platforms	Windows	Browsers	Node.js	Mac, Linux, Android
Libraries	Boost		Catch2, Mocha	Node-API, i18next, Recoil, Parasolid
Tools	CMake	Git	GitLab, Conan	Docker, Vite, Azure DevOps

Experience

Ansys, Canonsburg, PA

Senior R&D Engineer. May 2025 – Present.

- Working on software infrastructure for [Ansys Discovery](#) and [Live](#) solution.

ESI Group, San Diego, CA. (Remote)

Senior Software Engineer. Oct 2018 – Dec 2024.

- Created new C++ viewer for the [VAOne](#) product using OpenSceneGraph and Qt.
- Developed next-generation application prototype with Electron, React, and C++.

ESI Group, Farmington Hills, MI. (Remote)

Senior Software Engineer. Apr 2015 – Oct 2018.

- Front-end developer specializing in 3D visualization of Computer Aided Design (CAD) and Computer Aided Engineering (CAE) data in the browser using WebGL.

Ciespace Corporation, Pittsburgh, PA.

Senior Software Engineer. Oct 2011 – Apr 2015.

- Developed WebGL-based 3D viewer for Computer Aided Engineering (CAE) product that runs in modern browsers.

NAVTEQ, Chicago, IL.

Senior Software Engineer, Research and Emerging Technology. Oct 2008 – Sep 2011.

- Part of a team responsible for developing proof-of-concept projects.

Fulton High Performance Computing Initiative (HPCI), Arizona State University, Tempe, AZ.

Scientific Visualization Director. Oct 2007 – Sep 2008.

- Manager and technical lead of HPCI's Scientific Visualization team.

Decision Theater at Arizona State University, Tempe, AZ.
Assistant Director for Visualization. Apr 2006 – Oct 2007.

- Managed development of multi-screen, interactive GIS solutions for several projects.

D.N. American, Wright-Patterson Air Force Base, Dayton, OH.
Project Manager and Lead Engineer. May 2004 – Mar 2006.

- Collaborated with Scientists at Materials and Manufacturing Directorate.

Virtual Reality Applications Center, Iowa State University, Ames, IA.
Postdoctoral Researcher. Apr 2002 – Apr 2004.

- Developing software to translate CAD models to formats appropriate for virtual reality environments.

Iowa State University of Science and Technology, Ames, IA .
Lecturer. Jan 2003 – May 2003.

- Instructed ENGR 170, *Engineering Graphics and Introductory Design*, We used SolidWorks.

Neuralog, Inc., Houston, TX.
Software Engineering Consultant. Mar 2001 – Mar 2002.

- Developed import capabilities for NeuraSection and licensing module with FLEXlm.

Modelspace Corporation, Ames, IA.
Vice President and Co-Founder. Sep 1998 – Dec 2000.

- Developed and marketed BladeMaker, a turbomachinery CAD program.

Engineering Animation, Inc., Ames, IA. (Now owned by Siemens)
Software Engineering Consultant. January 2000 - April 2000, Jan 1997 – May 1997

- Developed geometric-model translation server for e-Vis.com using C++, Perl, SQL, and proprietary software.

NASA Glenn Research Center, Cleveland, OH
Graduate Researcher. May – Aug of 1994, 1995, and 1996.

- Developed BladeCAD, a custom CAD program for turbomachinery.

Biomechanics Research Laboratory, Allegheny-Singer Research Institute, Pittsburgh, PA.
Research Assistant. May – August of 1993.

- Assisted in research of cervical spine internal fixating devices.

Education

Iowa State University, Ames, Iowa.
Doctor of Philosophy, Mechanical Engineering, December 2000.
Thesis: Blade geometry description using B-Splines and general surfaces of revolution.
Advisor: Dr. James H. Oliver

Iowa State University, Ames, Iowa.
Master of Science, Mechanical Engineering, August 1995.
Thesis: Interactive turbomachinery blade modeler.
Advisor: Dr. James H. Oliver

University of Pittsburgh, Pittsburgh, Pennsylvania
Bachelor of Science, Mechanical Engineering, December 1992.

Awards

NCAA Division I All-American (Wrestling), 1990-91.