

Professional Summary

Highly accomplished and results-driven Design Automation Specialist and Technical Solutions Developer with over a decade of experience spearheading innovative manufacturing software solutions and process optimization. Adept at leveraging deep expertise in DriveWorks and SOLIDWORKS, combined with robust full-stack web development and UI/UX design, to create powerful, user-centric automation tools. Passionate about continuously learning and enabling efficiency through automation.

Key Accomplishments

DriveWorks Plugin Development: Pioneered a revolutionary DriveWorks plugin for dynamic icon integration, transforming a cumbersome manual process into a single-file solution granting instant access to 14,000+ customizable SVG icons; achieved a 7,000x performance boost by rewriting the plugin to embed SVGs directly, dramatically enhancing UI development efficiency across all projects. Rewrote an existing plugin for seamless unit conversion dramatically increasing available units to 162 total while improving the user and developer experience.

DriveWorks UI/UX Innovation: Pioneered and championed web-standard UI/UX design principles in DriveWorks projects, leading to significantly boosted user adoption and minimized training needs; presented this approach at DriveWorks World 2024.

DriveWorks Live Deployment Optimization: Transformed DriveWorks example Corporate Site into a highly adaptable templating system enabling version-controlled updates across 20+ client sites and easy configuration from non-technical personnel.

Manufacturing Process Optimization & Engineering Innovation: Created SOLIDWORKS assembly and drawings templates for common automotive fixtures reducing design time from 70-95%. Pioneered a new FEA role developing foam flow analysis procedures including writing custom scripts for realtime updates and lossless file size reduction. Reduced simulation file sizes by 60% and animation files by up to 90%.

Enterprise Knowledge & AI Platform Development: Established and administered a self-hosted Wiki.js knowledge base, serving as primary content author; pioneered AI-assisted article writing process and converted the knowledge base into a RAG system for AI-powered Q&A, fostering team collaboration and standardized documentation. Created customer portal to allow for embedded help documentation to be created without tying up a DriveWorks license.

Professional Certifications

- DriveWorks: Professional, Solo, Xpress (2022-2023)
- **SOLIDWORKS:**
 - Certified SOLIDWORKS Expert (CSWE) (2022)
 - CSWP + Drawing Tools/Weldments/Surfacing/Sheet Metal (2021-2022)
 - Simulation Professional, Visualize Associate, Technical Support Onboarding (2022)
- 3DEXPERIENCE: 3D Creator Associate, 3D Sculptor Associate (2022)
- W3Schools: HTML, CSS, JavaScript, TypeScript, XML, PHP, Node.js (2023-2025)
- Google/Coursera: UX Design Foundations (2023)

Software Proficiency

- Graphic Design: Figma, GIMP
- Development: VSCode/Cursor, Git/GitHub, Win-ACME
- Web Hosting Tools: IIS, Azure, Railway
- Office Suite: Microsoft 365, Google Drive
- CAE Simulation: ProCAST (Foam flow analysis)
- Other: Wiki.js, OpenWebUI, BitWarden, UniGetUI/WinGet

Professional Experience

Technical Solutions Consultant, *TPM*, Greenville, SC, USA **Oct 2021 - Present**

Engineering Consultancy including SOLIDWORKS and DriveWorks VAR

- Served as Tier 2 SOLIDWORKS Technical Support specialist, resolving issues calmly and efficiently including ITAR and air gapped networks.
- Functioned as SOLIDWORKS instructor and consultant, delivering comprehensive training programs to maximize client proficiency, and maximize designer efficiency.
- Provided expert Technical Solutions Consulting for DriveWorks implementations, guiding clients from requirements gathering to solution design, UX design, and successful deployment including web.
- Led internal tool and template development initiatives, optimizing DriveWorks team efficiency and enhancing end user adoption while improving security protocols.
- Maintained and troubleshoot IIS and VM environments, ensuring stable deployment of DriveWorks Live applications both internally and for clients.
- Managed complex projects from requirements gathering through deployment, often serving as primary technical liaison between development teams and clients.

Tool Designer, *Kearfott Corporation*, Black Mountain, NC, USA **Mar 2021 – Oct 2021**

Tier 2 US Department of Defense Contractor

- Designed, modeled, and drafted specialized tools using SOLIDWORKS for manufacturing ultra-precise guidance and control systems for military aerial and marine vehicles. Collaborated tightly with CNC programmers and machinists to ensure tolerance adherence and cost optimization.

Tool Designer, *Auria Solutions*, Old Fort, NC, USA **Oct 2017 – Mar 2021**

Global Tier 1 Automotive Supplier

- Undertook design, modeling, drafting, simulating, and purchasing for automotive manufacturing tools including molds, waterjet fixtures, assembly and inspection fixtures, specializing in complex SOLIDWORKS Assemblies and Drawings.

Teaching Assistant, *University of North Carolina at Asheville*, Asheville, NC, USA **Oct 2015 – Apr 2017**

- Provided expert SOLIDWORKS instruction during lectures and labs, graded models and drawings, produced pre-lab skill videos, and tutored students in advanced CAD concepts.
- Assisted freshman teams in design, construction, and programming of basic robots for Intro to Mechatronics.

Engineering Intern, *EMC of NC, Inc*, Wake Forest, NC, USA **May 2014 – Aug 2015**

Machine shop specializing in small quantity manufacturing

- Gained experience in CNC lathe and mill programming, and junior machinist operations as well as website and media development.
- Created mobile friendly website for managing inventory.

Education

Coursework toward B.E. Mechatronics Engineering 2015–2017

UNC Asheville / NC State University Joint Program

Coursework toward A.S. Mechanical Engineering 2012–2015

Wake Technical Community College

Leadership & Awards

Eagle Scout, *Boy Scouts of America* 2013

Achieved highest rank demonstrating leadership, project management, and community service through extensive projects.