**IAN AUVIL**

5464 SE Horseshoe Point Rd, Stuart, Florida 34997  
(513) 267-8948 | ianauvil@gmail.com  
[www.linkedin.com/in/ianauvil](http://www.linkedin.com/in/ianauvil)

**JOB OBJECTIVE**

Highly experienced **NX CAD Designer/Checker** with 20+ years of expertise in **Siemens NX (versions 11 through 2406)** for complex **3D parametric modeling, drafting, assemblies, and Model-Based Definition (MBD)**. Skilled in developing fully associative solid models, freeform surfaces, composites, and mesh modeling with wave-linked parametrics to ensure accuracy and manufacturability. Strong background in Product Manufacturing Information (PMI), GD&T application, and tolerance stack-ups for aerospace, turbine, marine, and industrial hardware. Proficient in creating and validating large assemblies, weldments, fixtures, tooling, and sheet metal designs, while integrating with Teamcenter (up to 2024) and Active Workspace for BOM management, workflow approvals, and configuration control. Recognized for mentoring engineers, resolving CAD issues, and ensuring design compliance with strict aerospace and manufacturing standards.

**SKILLS**

* **Professional Attributes**: Positive, highly dedicated worker | Effective leader & team player
* **CAD & Engineering Tools**: Siemens NX 2406.7 (Reverse Engineering, Fibersim, PMI) | Teamcenter 2024/AWS (Facilitator/Coordinator/QA/PD Checker/Role Assigner/Designer) | ProE/Wildfire – Windchill | AutoDesk Inventor 2020 (Certified 6/2011) | SolidWorks 2018 (Certified 6/2011 – Vault) | AutoCAD (v10–2000i, 2016) | Formtek Raster/3D-BCT | Vis Mockup / DPA
* **Advanced Modeling & Methods**: Model Based Definition (ASME Y14.41) | Advanced Composites & Freeform Modeling | 3D CAD Models/Solids-Sketcher | Fixtures, Tooling, Harnessing, Routing | Large Assemblies, Sheet Metals, Weldments | Tooling/Fixtures/Setups
* **Manufacturing & Machining**: CNC Lathes/Mills (HAAS, Vertical & Horizontal) | Wire EDM – Makino | MasterCAM 2X–4X | CAMWorks
* **Quality & Standards**: First Article Inspection (AS9102) | GD&T Certified (2002, 2004, 2008, 2010) | Stack-up Certified (2/2008) | UGS Certified Professional (2/2008) | ASME Y14.5M (1994, 2009, 2018) | GOM Pro (2018–2019) | Geomagic Design X
* **Software & Productivity**: Microsoft Office (Word, Excel, PowerPoint, Access – latest) | Microsoft Office Professional Plus 365

**EDUCATION**

* **Daytona State College – Daytona Beach, FL**
* A.S. in **Manufacturing Technology – CNC/MasterCAM**, High Honors | May 18, 2011
* A.S. in **Drafting & Design Technology – CAD/CAM**, High Honors | May 18, 2011
* **Manchester Technical College (Butler Tech) – Middletown, OH**
* A.S. in **Computer-Aided Drafting & Design** | June 9, 1999
* **Muskingum College – Caldwell, OH**
* Coursework in **Microcomputer Applications** (12 credit hours) | Oct 1997 – Apr 1998
* **Madison High School – Middletown, OH**
* **General Studies** | Graduation: May 28, 1996

**WORK EXPERIENCE**

**Commonwealth Fusion Systems (Contract/Remote) – PDE Senior NX Drafter/Designer/Checker**  
Massachusetts – Florida | 01/2022 – Current | <https://cfs.energy/>

* Collaborate with a diverse team of scientists and engineers to advance clean fusion energy.
* Provide comprehensive CAD design, drafting, and checking support utilizing Siemens NX CAD 2406 and Teamcenter 14.1.
* Develop Product Manufacturing Information (PMI) including design specifications, manufacturing processes, quality standards, and embedded data within 3D CAD files (Model-Based Definition, MBD).
* Partner with engineering and scientific teams to review drawing/model modifications for manufacturing feasibility.
* Create engineering BOMs on solid models and associative drawings in Teamcenter.
* Use Active Workspace in Teamcenter for sharing, checking, and approving models/drawings in workflow processes.
* Design and develop casings, magnetic coils, and supporting hardware for plasma fusion energy systems with fully defined models and drawings.
* Perform complex design/detailing tasks for production hardware and large weldment assemblies in NX linked model environment, ensuring strict Geometric Dimensioning & Tolerancing (GD&T) compliance.
* Leverage NX modeling/drafting expertise to refine complex 3D designs and enhance product functionality.

**Bye Aerospace (Contract/Remote) – Sr. Mechanical Checker / NX Modeler Engineering Specialist, PD**  
Denver, Colorado – Florida | 01/2021 – 01/2022 | <https://byeaerospace.com/>

* Validate and check NX 3D models, assembly structures, and drawings for metal and composite materials.
* Serve as Lead Checker for design groups and IPT leads, resolving CAD issues and mentoring engineers.
* Apply and review GD&T for manufacturability of composite/metal parts, including sheet metal and water jet files.
* Execute complex design/detailing for Landing Gear, Structures, and Composites.
* Utilize NX CAD 1980, PLM Teamcenter 13.2, Active Workspace 5.2, and Fibersim.
* Collaborated with Siemens on NX 1980 and Teamcenter 13.2 updates.
* Manage Teamcenter transfers from engineering BOM (eBOM) to manufacturing BOM (iBOM) across major assemblies and hardware/NX part families.

**UNEW Inc. (Outsourced with Doosan Heavy Industries – 1.5 yrs) – Sr. Mechanical Checker/Designer/Drafter, NX Modeler**  
Palm Beach Gardens, Florida | 06/2018 – 06/2021 (Ongoing Support) | <https://unew.com/>

* Lead re-engineering and new complex design/detailing of engine hardware and assemblies: compressors, turbines, vanes, blades, nozzles, cooling holes, disks, rotors, and flow-paths (aero & industrial gas turbines).
* Build fully parametric NX 11/12 models with Teamcenter 12, including Free Form & Mesh Modeling for blends, airfoils, cores, and nozzles with wave-linked parametrics.
* Use Geomagic and GOM Inspect for analyzing 3D measurement data from laser scanners and CMMs.
* Develop First Article Plans & Inspections per AS91202 standards, applying GD&T to critical interfaces.
* Validate and check NX 3D models, assemblies, and drawings; acted as Lead Checker for design group and IPT leaders, mentoring staff and resolving CAD issues.

**Belcan Engineering Group (Outsourced by Doosan Heavy Industries) – Mechanical Checker/Designer/Drafter**  
Palm Beach Gardens, Florida | 12/2017 – 06/2018

* Delivered detailed designs/refinements of engine hardware and assemblies using NX11.
* Applied 100% associative linking between models and drawings using WAVE geometry.
* Identified and resolved engineering issues (collisions/interference).
* Specialized in linked model environments and large primary assemblies.
* Designed for industrial gas turbines, generators, boilers, and power plant facilities.
* Collaborated effectively with Doosan engineers in South Korea, overcoming cultural and language barriers while meeting strict deadlines.

**Belcan Engineering Group (Outsourced by Pratt & Whitney UTC) – PD&E Senior Designer**  
Palm Beach Gardens, Florida | 10/2013 – 11/2017

* Developed engineering drawings, 3D parametric models, 2D build drawings, and BOMs using NX11/Teamcenter2010.
* Provided timely updates for assemblies and developed new hardware to meet competitiveness and deadlines.
* Conducted training in advanced NX modeling/drafting using composites to reduce weight and cost.
* Supported NASA FAA CLEEN P&W 24” Rig 2 at NASA GRC: modeled/drafted honeycomb laminated composite structures, mold surfaces, and layup sequencing.
* Worked on large weldments/assemblies, improving parametric modeling capability.
* Applied lessons from wind tunnel testing for P&W’s latest commercial engines.
* Mentored Belcan recruits, provided training, and managed drafting/design resources.
* Designed turbine blades/vanes, installing cooling holes per durability team directives.

**Boston Whaler – PD&E CADD Team Leader / Designer / Captain for Boat Tests**  
Edgewater, Florida | 09/2011 – 10/2013 | <https://www.bostonwhaler.com/>

* Created engineering drawings and 3D/2D models for marine products using NX7/Teamcenter2007.
* Worked cross-functionally with engineering, manufacturing, and sales to achieve cost/schedule targets.
* Supervised a 10-member design/engineering team, ensuring prototypes and builds met deadlines.
* Conducted marine water testing of DV builds to identify/prevent failures prior to production.
* Delivered boats to customers via ocean/intercoastal waterways from Daytona to Miami/Ft. Lauderdale.

**Raydon – Senior Mechanical Engineering Designer**  
Port Orange, Florida | 06/2011 – 09/2011

* Designed complex hardware/tooling assemblies using Inventor 2012.
* Conducted layouts/stack-ups to ensure form, fit, function, and cost compliance.
* Collaborated with customers, engineering, and manufacturing on new product quotes.

**FloMet LLC – Senior Manufacturing Technician**  
Deland, Florida | 11/2010 – 05/2011

* Designed MIM/PIM molds, jigs, fixtures, gauges using SolidWorks2010 per ASME Y14.5-2009.
* Partnered with manufacturing in CNC, wire EDM, and heat treatment processes.
* Supported quality teams using Micro-Vu 3D/2D probes to inspect stack-ups and dimensions.

**Goodrich Corporation (Aircraft Wheels & Brakes, Contract) – Senior Mechanical Engineering Designer**  
Troy, Ohio | 06/2008 – 06/2009

* Designed aircraft wheels and brakes using Unigraphics/Teamcenter.
* Worked closely with manufacturing on machining, forging, and large weldment assemblies.

**Morris Technologies Inc. (GE Aircraft Engines Contractor) – Senior Mechanical Engineering Designer**  
Cincinnati, Ohio | 12/2007 – 05/2008

* Designed combustor rigs and GEAE engine hardware in Unigraphics.
* Adapted engine specs for thermal expansion.
* Supervised a small design team on deadlines and manufacturing requirements.
* Designed medical tooling (Ethicon) using SolidWorks/Pro-E.

**TK Engineering Associates, Inc. (GE Aircraft Engines Contractor) – Senior Mechanical Designer/Drafter**  
Cincinnati, Ohio | 01/2004 – 12/2007

* Designed turbine frames, fan frames, vanes, combustor cases, and rotating parts in Unigraphics.
* Built assemblies under WAVE-linked environments with mating conditions.
* Ensured compliance with GEAE/NASA/FAA standards.
* Validated/issued production hardware in Teamcenter/I-man.

**CDI Engineering Services (GE Aircraft Engines Contractor) – Senior Mechanical Designer/Drafter**  
Cincinnati, Ohio | 01/2001 – 01/2004

* Designed compressor cases, turbine frames, vanes, blades, and wire harness routings in Unigraphics.
* Maintained full associativity between models/drawings per GEAE & FAA standards.
* Worked in Teamcenter linked environments.
* Recognized multiple times by GEAE managers for outstanding performance.

**Biz Core Inc. – Designer/Drafter**  
Oregonia, Ohio | 01/2000 – 01/2001

* Designed fiber optic cable maps and electrical schematics for city infrastructure.
* Produced architectural designs and layouts using AutoCAD.

**REFERENCES**

**Gordy Caughey** – Engineering Checker / ASME GD&T Expert  
15601 E El Lago Blvd, Fountain Hills, AZ  
(480) 993-6290 | grcaughey@gmail.com

**Bruce Beeman** – VP Engineering Manager  
(561) 301-1297 (mobile) | bruce.beeman@unew.com

**Spencer Gould** – Senior Lead Aerospace Project Engineer  
P.O. Box 880191, Port St. Lucie, FL 34986  
(772) 888-5481 (mobile)  
spencer.gould@kratosdefense.com | [spencer\_gould79@yahoo.com](mailto:spencer_gould79@yahoo.com)

**Clinton Mayer** – Project Lead / Sr. Mechanical Designer  
525 N. Cypress Drive, Tequesta, FL 33469  
(561) 452-0935 (mobile)  
clinton.mayor@kratosdefense.com | [turbo\_tech101@yahoo.com](mailto:turbo_tech101@yahoo.com)

**Mark Borja** – Lead Turbine Engineering Manager  
Palm Beach Gardens, FL 33420  
(561) 373-3963 (mobile) | borjame@gmail.com

**Tim Myers** – Aerospace Design & Drafting Manager  
1741 S Bayberry Dr, Miamisburg, OH 45342  
 (513) 312-6824 (mobile) | tntmyers@roadrunner.com

**Steve Jerigan** – Team Leader, Marine Design Engineer / Manufacturing  
4295 S. Carriage Dr, Titusville, FL 32796  
(321) 223-2274 (mobile) | [sjern007@yahoo.com](mailto:sjern007@yahoo.com)