IAN AUVIL A blue and white label with white text

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**JOB OBJECTIVE:** Actively seeking a challenging position in Mechanical/Manufacturing/Design/Engineering/Checking field which will utilize and enhance my skills, provide practical learning experiences, and offer potential advancement. (Aerospace & Industrial Gas Turbines, Airframe, Helicopter, Automotive, Marine, Bio-Med, Energy, Electronics, Manufacturing & Automated Equipment, Test Rigs, Prototypes, Reengineering, Robotics, Marine & UAV's)

**SKILLS:** Positive HIGHLY Dedicated Worker NX2406.7 Reverse Eng, Fibersim, PMI Effective Leadership/Team Player ProE/Wildfire- Windchill

First Article Inspection AS9102 AutoDesk-Inventor 2020 Cert 6/2011

Mechanical/Architectural/ Electrical Schematics AutoCAD 10-2000i, 2016

3D CAD Models/Solids-Sketcher CAD- Formtek Raster/3D-BCT

Word, Excel, Power point, & Access up to date ASME Y14.5M 1994, 2009, 2018

Microsoft Office Professional Plus 365 (latest) ASME Y14.41 Model Based Definition

Vis Mockup / DPA UGS Certified Professional 2/2008

Fixtures/Tooling/Harnessing/Routing Stack-up Certified 2/2008

TeamCenter2024/AWS - Facilitator/Coord/QA/PD Checker/Role Assigner/Designer

Solidworks2018 Certified 6/2011 – Vault Laths/Mills (HAAS CNC) Vert/Horiz MasterCAM 2X-4X/CAM works Wire EDM- Makino

Tooling/Fixtures/Set Up Large Assembly’s/Sheet Metals/Welds

Advanced Composites Modeling –Free Form DDM – Doc Data Management

GOM Pro 2018-19/ Geomagic Design X GD&T Certified (2002, 04, 08, 10)

**EDUCATION:** **Daytona State College**, Daytona Beach, Florida

A.S. in Manufacturing Technology-CNC/MasterCAM, Completion Date: May 18, 2011

**\*HIGH HONORS\***

**Daytona State College**, Daytona Beach, Florida

A.S. in Drafting & Design Technology-CAD/CAM, Completion Date: May 18, 2011

**\*HIGH HONORS\***

**Manchester Technical College (Butler Tech)**, Middletown, Ohio

A.S. in Computer-Aided Drafting & Design, Completion Date: 6/9/99

**Muskingum College**, Caldwell, Ohio

Microcomputer Applications, 12 credit hours: 10/97-4/98

**Madison High School**, Middletown, Ohio

General Studies, Graduation Date: 5/28/96

**WORK EXPERIENCE:**

**Commonwealth Fusion Systems** (Contract/Remote) PDE Senior NX Drafter/Designer/Checker

Massachusetts- Florida: 1/22 – Current <https://cfs.energy/>

* Collaborating with a diverse team of scientists and engineers to achieve clean fusion energy.
* Provide comprehensive CAD design, drafting, and checking support utilizing the latest Siemens NX CAD 2406 software and Teamcenter 14.1.
* Product Manufacturing Information (PMI): This includes design specifications, manufacturing processes, quality standards, and embedded data within a 3D CAD file. Model Based Definition (MBD)
* Partner with engineering and scientific teams to review drawing/model modifications for manufacturing feasibility.
* Help create engineering BOMs on solid models and associative drawings in Teamcenter.
* Using Active Workspace in Teamcenter for sharing, checking, and approving models/drawings in the workflow process.
* Design and development of casings, magnetic coils, and supporting hardware components utilized in plasma fusion energy systems with fully defined models and drawings.
* Undertake complex design and detailing tasks for production hardware and large weldment assemblies utilizing NX linked model environment, ensuring Geometric Dimensioning and Tolerancing (GD&T) within stringent tolerance limits.
* Utilized NX modeling/drafting skills to develop and adjust complex 3D designs, enhancing product functionality.

**Bye Aerospace** (Contract/Remote) Sr. Mechanical Checker -NX Modeler Engineering Specialist, PD

Denver, Colorado- Florida: 1/21 – 1/22 https://byeaerospace.com/

* Validation and checking of NX 3D models, assembly structure, and NX drawings for metal and composite materials.
* Lead checker for Design group and IPT leads, resolving CAD issues and providing mentoring on 3D models/related dwgs.
* Applying and checking GD&T to ensure tolerance stack-ups with composite and metal parts are manufacturable, including steel metal and water jet files.
* Complex design/detailing in Landing Gear, Structures and Composites
* Utilizing the latest versions of NX CAD 1980 software, PLM Teamcenter 13.2, Active Workspace 5.2, and Fibersim
* Collaborated with Siemens on NX 1980 and Teamcenter 13.2 updates.
* Teamcenter transfer from engineering bill of materials (eBOM) to manufacturing bill of materials (iBOM) including major assemblies and standard hardware/NX part families.

**UNEW Inc** (Outsourced with Doosan Heavy Industries (1.5yrs) Sr. Mechanical Checker/Designer/Drafter -NX Modeler

Palm Beach Gardens, Florida: 6/18 – 6/21 (ON GOING SUPPORT) <https://unew.com/>

* Re-engineering and new complex design/detailing in engine hardware and assemblies (including compressors, turbine, vanes, blades, nozzles, cooling holes, disks, rotors, and flow-path for aero). This also includes industrial gas turbines/compressors and gear housings.
* Creation of fully parametric models using NX 11/12 and the latest CAD software, as well as Teamcenter 12. This includes Free Form and Mesh Modeling for blends, airfoils, cores, and nozzles that are fully parametric and wave-linked. Worked with layouts and stack-ups of scanned data to ensure form, fit, and function with mating hardware.
* Utilizing Geomagic and GOM Inspect software to analyze 3D measurement data from laser scanners and coordinate measuring machines (CMM) for product development, quality control, and production.
* Develop First Article Plans and Inspections in accordance with AS91202 standards, utilizing critical interfaces and applying comprehensive GD&T principles.
* Responsible for validating and checking NX 3D models, assembly structures, and associated drawings. Served as the lead checker for the design group and all IPT leaders. Addressed all CAD-related issues and provided mentorship within the facility pertaining to models and drawings.

**Belcan Engineering Group** (Outsourced by Doosan Heavy Industries) Mechanical Checker/Designer/Drafter

Palm Beach Gardens, Florida: 12/17 – 6/18

* Detailed design and refinement of engine hardware and assemblies using NX11 CAD software, specifically focusing on WAVED linked models of gas turbine components, including the compressor, turbine, and exhaust systems.
* 100% associatively between models and their drawing per Standards linked and waved geometry models and assemblies using Mating Conditions
* Identified engineering issues (collisions/interference) and provided design recommendations.
* Proficient in working with linked model environments and primary assemblies
* Ensured form, fit, and function through layouts and stack ups.
* Industrial gas turbines and generators, boilers, and power plant facilities.
* Successfully bridged language and cultural gaps with Doosan Heavy Industries' South Korean engineers
* Collaborating with an international company, addressing language barriers, and comprehending their design and manufacturing processes to meet strict deadlines

**Belcan Engineering Group** (Outsourced by Pratt & Whitney UTC) PD&E Senior Designer

**Palm Beach Gardens, Florida: 10/13 – 11/17**

* The planning, layout, and development of engineering drawings and associated documentation to support the manufacturing, assembly, and testing of engine hardware will encompass the creation of 3D parametric models (Free Form), 2-D build drawings, and Bill of Materials using NX11/Teamcenter2010.
* Ensuring timely updates to existing assemblies and developing new products and hardware efficiently to maintain competitiveness in the market and meet assembly deadlines.
* Documenting and facilitating training for advanced modeling and drafting using composite materials to achieve weight and cost reduction.
* Strategies for addressing current software updates and concurrent engineering modifications
* Mechanical Design, Composites, Manufacturing. NASA FAA CLEEN P&W 24” Rig 2 at NASA GRC: Modeled and drafted honeycomb laminated composite structures and bonded assemblies. Used UG Free Form and advanced surface modeling. Created layup sequencing instructions for technicians. Designed mold surfaces with coordinated hole and trim patterns, improving UG modeling techniques to reduce turnaround time and enhance parametric capability. Worked on weldments of large assemblies.
* NASA's top wind tunnels testing P&W's latest commercial engine aerodynamics, applying lessons from previous military and commercial engines.
* Recruitment and candidate review for Belcan, new hire training, drafting and design knowledge resources. Supervisory and management roles for high-end products, business and industrial planning, validation.
* Layout/Design of Turbine Blades and Vanes: Installing Cooling Holes as directed by Durability in either hot or cold positions.

**Boston Whaler** PD&E CADD Team Leader / Designer / Captain for Boat Tests

**Edgewater, Florida: 9/11 – 10/13** <https://www.bostonwhaler.com/>

* Develop engineering drawings and documentation for marine products from concept to final configuration, including 3-D models, 2-D build drawings, and Bill of Materials using NX7/Teamcenter2007. Ensure quality assurance of all 3D models from internal and external sources.
* Working directly with engineering, manufacturing, and sales personnel on new products to achieve cost and schedule objectives.
* Regularly updating and developing assemblies, products, and hardware to remain competitive in the market
* Overseeing a design and engineering team of over 10 members to guarantee that prototype and mockup builds are finalized and timely prior to production.
* Conducted water testing of DV builds to assess quality and identify potential failures before production release under challenging marine conditions. Delivered boats to customers via ocean or intercoastal waterways from Daytona to Ft. Lauderdale/Miami.

**Raydon** Senior Mechanical Engineering Designer

Port Orange, Florida: 6/11-9/11 (Government Funding Issues=Layoffs)

* Complex Assemblies/Design/Detailing of Hardware/Tooling hardware using sketcher linked expressions using Inventor2012 3D CAD software
* Collaborate on layouts and stack-ups to ensure product form, fit, function, cost, and schedule targets are met.
* Collaborating with customer representatives, engineering, manufacturing, and sales personnel on new products/quotes.

**FloMet LLC.** Senior Manufacturing Technician

Deland, Florida: 11/10-5/11

* Layout/Design/Drawings of Metal Injection Molding (MIM)/Powder Injection Molding (PIM) Molds, Jigs, Fixtures, Gauges utilizing Solidworks2010 per ASME Y14.5-2009 of Medical Devices and Gun Components
* Worked with manufacture in router path set up/machining; in wire EDM & CNC Makino mills for production work, understanding and set up of different methods of heat treat for certain hardness’s
* Worked with Quality using advanced 3D and 2D Micro-Vu image comparison touch probes to inspect critical dimensions and stackups for inspection

**Goodrich Corporation-Aircraft Wheels and Brakes** (Contract Only) Senior Mechanical Engineering Designer

Troy, Ohio: 6/08-6/09

* Layout/Design aircraft wheels and brakes utilizing Unigraphics/Teamcenter
* Worked with manufacture in router path set up/machining; forging-machining
* Weldments and Large Assembly’s

**Morris Technologies Inc.** (GE Aircraft Engines Contractor) Senior Mechanical Engineering Designer

Cincinnati, Ohio: 12/07 – 5/08

* Layout/Design for combustor rigs; GEAE engine hardware utilizing Unigraphics
* Modifying engine specifications to accommodate thermal expansion for assessment purposes.
* Leadership of small design team overseeing deadlines and manufacturing requirements for assembly
* Ethicon medical tooling design utilizing Solidworks/Pro-E CAD systems

**TK Engineering Associates, Inc.** (GE Aircraft Engines Contractor) Senior Mechanical Designer/Drafter

Cincinnati, Ohio: 1/04 – 12/07

* Complex design/detailing of engine/tooling hardware (Turbine Frames, Fan Frames, Vanes, Combustor Cases, Rotating Parts) using sketcher linked expressions all parametric using Unigraphics CAD software
* Using Unigraphics Assemblies for structure of engine in Teamcenter
* Using linked model environment under mating conditions using WAVE
* Understanding of GEAE/NASA/FAA standards for engine/tool design/detail
* Model/drawing validation/Issue of production hardware in I-man/Teamcenter
* LME Solid Wave, Control Structures, Altreps, Lathe Solids, DPA

**CDI Engineering Services** (GE Aircraft Engines Contractor) Senior Mechanical Designer/Drafter

Cincinnati, Ohio: 1/01 - 1/04

* Complex design/detailing in engine hardware (Compressor Cases, Turbine, Frames, Vanes, Blades, Hose/Wire harness routings) using Unigraphics CAD software
* 100% associatively between models and their drawing per GEAE Standards and FAA requirements
* Fluent with linked model environment and major assemblies in I-man/Teamcenter
* Worked with layouts & stack ups to assure form, fit and function
* Received numerous recognition awards from managers and GEAE personnel for outstanding performances

**Biz Core Inc** Designer/Drafter

Oregonia, Ohio: 1/00 - 1/01

* Designing Fiber Optic Cable Outline Maps & Electrical Schematics for the city
* Architecture Design and layouts using AutoCAD

**REFERENCES:** Gordy Caughey (Engineering Checker/ASME GD&T Expert)

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Tim Myers (Aerospace Design & Drafting Manager)

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Steve Jerigan (Team Leader Marine Design Engineer/Manufacture)

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