

# JORGE LUIS AVILÉS MEDINA

San Juan del Rio, Queretaro, Mexico • Jorge.Aviles@gmx.com • +52 4271840508 • [linkedin.com/in/jorge-aviles-mx/](https://www.linkedin.com/in/jorge-aviles-mx/) •  
GitHub: [javilesm.github.io](https://github.com/javilesm)

Design Engineer | Product Development | CAD Automation

---

## PROFESSIONAL SUMMARY

---

Design Engineer with extensive experience in advanced mechanical design, CAD automation, reverse engineering, and product development. Skilled in geometric dimensioning and tolerancing (GD&T ASME Y14.5 and ISO 1101), industrial metrology, and material selection for manufacturing and industrial design applications. I hold a proven ability to lead cross-functional teams, work independently on safety-critical systems, and deliver technical documentation writing and review with high accuracy. Skilled in optimizing workflows through programming (Python, iLogic, VBA) and cloud-based modeling tools, driving efficiency across the full product development lifecycle. I describe myself as a team-oriented professional with demonstrated creativity, willingness to develop others, and eagerness to engage in hands-on engineering work.

## PROFESSIONAL EXPERIENCE

---

**Perficom** | San Juan del Rio, Qro., Mexico

*Dec 2025 – Present*

### ***Design Engineer — Product Design & Engineering***

- Led technical audits of CAD models, complex assemblies, and dimensional reports for product development projects, ensuring strict compliance with international GD&T and mechanical engineering standards.
- Authored and implemented the corporate Technical Notes Manual, covering technical documentation writing and review, tolerances, part definition and support, and design specifications across all product lines.
- Designed and optimized mechanical components (plastic trims, PVC and aluminum extrusion profiles, sheet metal stamping, CNC machining) ensuring critical manufacturing tolerances for commercial refrigeration applications, performing system layout drawing and 3D modeling reviews.
- Automated parametric workflows using Autodesk Inventor API, iLogic, and VB.NET — including AutoCAD 2D & 3D modeling pipelines — dramatically reducing engineering cycle times.
- Executed complex reverse engineering and industrial metrology projects for continuous improvement and validation of existing product lines, applying safety-critical domain standards.
- Provided sales support by preparing technical documentation, cost estimation inputs, and product presentations for prospective clients.

**Amazon** | Queretaro, Mexico

*May 2025 – Nov 2025*

### ***Sort Center Associate FX***

- Maintained throughput analysis and efficiency metrics in the sorting and palletizing of logistics goods in a fast-paced environment, demonstrating ability to work independently under strict corporate safety guidelines.
- Coordinated with team members to optimize material handling and conveyors workflow, contributing to operational throughput targets.

**VivaAerobus** | Monterrey, N.L., Mexico

*Apr 2021 – Oct 2021*

### ***Tooling Control Engineer***

- Designed and executed the tooling calibration program, managing TAT (turn-around time) dispatch to external workshops and ensuring all tools met airworthiness standards defined by manufacturers and the Engineering department.
- Guaranteed tooling availability for line maintenance and major service execution by controlling work orders, managing repair workflows, and issuing the monthly tooling expiration report.
- Administered department budget and coordinated procurement of supplies, equipment, repairs, and capital assets, including cost estimation aligned with production planning and control requirements.
- Supervised a team of junior technicians and engineers in preventive/corrective maintenance and calibration operations, achieving on-time delivery in coordination with the Major Service Program.
- Applied knowledge of aeronautical technical manuals (AMM, IPC, TEM, MPD) and the AMOS / Airbus World maintenance system to plan, track, and control tooling compliance across all assigned production units.

→ Collected and correlated OEE data and key metrics to underpin day-to-day Total Productive Maintenance (TPM) activities; presented results to senior management via structured performance reports.

**Bombardier Aerospace** | Queretaro, Mexico

Nov 2015 – Jun 2020

### **Tooling Engineer**

- Maintained the good condition of all tooling assets and managed resources to provide tooling support across assigned production units, prioritizing and processing TSRs (Tooling Service Requests) in alignment with production needs.
- Created detailed CAD models and drawings in CATIA V5 for tooling components and assemblies, ensuring design manufacturability and full compliance with GD&T (ASME Y14.5 / ISO 1101) and aerospace quality standards.
- Executed the preventive maintenance plan and tool re-certification schedule, ensuring all corrective maintenance, TSR fulfillment, and certifications were completed on time and in the proper manner.
- Completed work orders for tooling requested by production and methods teams, coordinating installations, modifications, and changes required for new project development within the assigned production unit.
- Developed and implemented tooling verification and control policies, standards, and procedures in accordance with Quality Assurance Directives, tracking actions and KPI indicators via the departmental scorecard.
- Contributed to continuous improvement of production and manufacturing processes by analyzing root causes and providing technical support to methods, production, and quality teams in problem-solving activities.
- Performed tooling cost estimations and contributed to strategic cost-reduction projects through design standardization and process simplification, delivering measurable savings in engineering hours and material costs.
- Trained junior engineers in CAD software (CATIA V5, Autodesk Inventor), GD&T principles, and aerospace tooling best practices within a team-oriented, safety-first environment.

## **EDUCATION**

---

**Universidad Tecnologica de San Juan del Rio** | San Juan del Rio, Queretaro, Mexico

*B.S. Manufacturing Engineering* (equivalent: Mechanical Engineering + Industrial Engineering)

## **CERTIFICATIONS**

---

<b>Advanced Machining</b> — <i>Instituto Queretano de Herramientales</i>	2023
<b>Project Management</b> — <i>SPC Group</i>	2020
<b>GD&amp;T – 4 Levels as per ASME Y14.5 / ISO 1101</b> — <i>Qualixoma</i>	2020

## **OUTSTANDING TECH PROJECTS**

---

**PointForge3D (2026):** Architecture and development of a Python / FastAPI pipeline on GCP G2 instances for automated conversion of 2D references to 3D point clouds and surface generation — applying mechanical engineering, 3D modeling, and product development principles.

**Procedural CAD Generation (2026):** Creation of PowerShell and iLogic algorithms for parametric import, dynamic positioning, and block metadata management (.ipt) in bulk assemblies within Autodesk Inventor, enabling system layout drawing automation at scale.

## **TECHNICAL SKILLS**

---

**Mechanical Design:** AutoCAD 2D & 3D modeling, Autodesk Inventor, SolidWorks, CATIA V5, Sheet Metal Design, System layout drawing, FEA, Machining (Turning & Milling).

**Engineering:** GD&T (ASME Y14.5 / ISO 1101), Reverse Engineering, Metrology, Mechanical Engineering, Industrial Design, Product Development, Part definition and support.

**Manufacturing:** Lean Manufacturing, Six Sigma, TPM, Material handling, SAP.

**Coding & Cloud:** Python, FastAPI, iLogic, VBA, VB.NET, Macros, Google Cloud Platform (GCP), Excel.

**Quality & Systems:** Project Management, Cost estimation, Technical documentation writing and review, Data Analytics, AS9100, ISO 9001, Core Tools, SAP, QAD

**Aerospace MRO:** TSR management, Tooling calibration programs, AMM, IPC, TEM, MPD, AMOS, Airbus World, Preventive & Corrective Maintenance, Tooling Re-certification.

**Soft Skills:** Team leadership, Coordination, Presentation skills, Creativity, Ability to work independently, Team-oriented, Willingness develop others, Hands-on engineering.