Francisco Estrada Garcia

Industrial Engineer

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👤 PROFILE

Mechanical Designer & Prototyper with 13+ years teaching and building with SOLIDWORKS (CSWP + multiple CSWPA). I blend industrial design, DFM, and hands-on fabrication to turn ideas into manufacturable CAD, drawings, and working prototypes. Comfortable across sheet-metal, molded parts, assemblies and mechanisms, reverse engineering, and CAM. Known for clear feature trees, versioned files, and production-ready documentation (BOMs, DXFs, bend tables). Based in Durango, Mexico; open to remote collaboration.

💼 PROFESSIONAL EXPERIENCE

Quality Intern
Coexpan Emsur
08/2005 – 12/2005 | Queretaro, Mexico
- Supported quality inspections and reporting for packaging components.
- Assisted with line checks and basic documentation improvements.

Research Professor
Tecnológico Nacional de México
04/2006 | Durango, Mexico
- Teach SOLIDWORKS from fundamentals to advanced (sheet metal, surfacing, drawings, CAM).
- Mentor student teams on design-for-manufacture, tolerancing, and prototype validation.
- Lead applied projects combining CAD/CAM, mechatronics (ESP32/PLC), and documentation.

🧠 SKILLS

CAD/DFM
SOLIDWORKS (CSWP, Sheet Metal, Surfacing, Weldments, Drawings, Mold Making), feature-based modeling, top-down design, BOMs, manufacturing drawings.

Fabrication
Sheet-metal design (flat patterns, bend tables), plastic/molded parts, assemblies & mechanisms.

Reverse Engineering
Measurement, fit/function replication, documentation.

CAM/Prototyping
Toolpaths, CNC workflows, 3D printing, prototype test & iteration.

Mechatronics
ESP32/PLC integration for smarter prototypes.

Process
DFM/DFA, tolerancing, clear revision control, risk-first problem solving.

📁 PROJECTS

Sheet-Metal Mini Bender / Press Brake
07/2025 – 07/2025
- Parametric SOLIDWORKS assembly (dies, hinge, clamping beam, back-gauge); DXFs, bend tables, drawings, and BOM.
- Built for repeatable small-part fabrication; quick die swaps and easy maintenance.

Medical Ventilator Prototype
04/2020 – 06/2020
Full CAD assembly and documentation for experimental prototype.

CNC Plasma Cutter
02/2019 – 08/2019
Custom CNC plasma cutter (mechanics + controls).

Mini CNC Mill
02/2012 – 10/2012
Briefcase-size mill

🎓 EDUCATION

Master of Business Administration
Universidad TecMilenio
01/2010 – 08/2011 | Durango, Mexico
MBA — *Jan 2010 – Aug 2011*

BSc Industrial Engineering
Tecnológico Nacional de México
(Campus Durango)
08/2001 – 12/2005 | Durango, Mexico

PhD, Organizational Management
Universidad Autónoma de Nayarit (UAN)
08/2021 – 06/2024 | Tepic, México

🔧 CERTIFICATES

Certificate Solid Works Professional CAM (CSWP-CAM)
ID:C-PBVDKSX73L –⊡*Aug 7, 2025*

Certified Solidworks ProfesionalAdvanced Mold Making (CSWPA-MM)
ID: C-ZPU5RB7VJ3 — *Aug 4, 2025*
⊡

Certified Solid Works Professional Advanced Surface (CSWPA-SU)
ID: C-JKDC9EPNRB — *Aug 3, 2025*
⊡

Certificate SolidWorks Professional Advanced Sheet Metal (CSWPA-SM)
ID: C-62HKETM49C — *Dec 19, 2023*

Certificate SolidWorks Professional Advanced Weldments (CSWPA-WM)
ID: C-T57ECBKNJA — *Dec 17, 2023*
⊡

Certificate SolidWorks Professional Advanced Drawing Tools (CSWPA-DT)
ID: C-RRU3SP9YYS — *Dec 5, 2017*

Certificate SolidWorks Associate – CAD Design (CSWA)
ID: C-WZNJMG25S9 — *Nov 24, 2015*
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