Jorge Enrique Filipigh

Mechanical Design Engineer · FEA Specialist

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Innovative mechanical engineer with **18+ years of experience** in product design, structural optimization, and multidisciplinary engineering across automotive, industrial, **HVAC**, and elevator industries. Expert in **FEA**, **CAD modeling**, **thermodynamic design**, and **turnkey project execution**. Recognized for integrating precision engineering with cost-effective, reliable solutions in demanding environments.

PROFESSIONAL EXPERIENCE

Sr. Mechanical Design Engineer (FEA) — Otis Elevator Company Jan 2023 – Present · Florence, SC

- Lead structural optimization studies under VAVE cost-reduction programs.
- Conduct FEA simulations for sheet-metal assemblies, hydraulic jacks, and elevator structures.
- Drive engineering change processes and dimensional stack-up analyses.
- Deliver drawings, tolerance reports, and simulation documentation for global teams.

Sr. Mechanical Design Engineer — Marquardt Switches Jan 2020 – Feb 2022 · Rochester Hills, MI

- Designed complex plastic parts, key fobs, and PCB housings in Siemens NX.
- Conducted FEA, Moldflow, and DFM analyses to ensure manufacturability.
- Created GD&T drawings and managed Agile/SAP PLM documentation.
- Collaborated with suppliers and OEMs to align design and production targets.

Sr. Mechanical Design Engineer — Xdin Inc. (ALTEN Group) Jan 2019 – Jan 2020 · Greensboro, NC

- Developed Class A/B surfaces and mechanical assemblies for Volvo and Mack Trucks.
- Performed finite element analysis and CAE documentation.
- Managed customer PLM (PTC Windchill) workflows and design approvals.

Sr. Mechanical Design Engineer — Harman International May 2016 – Dec 2018 · Novi, MI / Japan

- Designed injection-molded and stamped-metal components for automotive sound systems.
- Coordinated with OEM resident engineers (Toyota, Lexus) in Japan.
- Delivered CAD models, FEA validation, and PPAP documentation to schedule.

Mechanical Design Engineer — Continental Automotive AG Apr 2011 – May 2016 · Guadalajara, MX

- Designed electronic control units (ECUs) integrating plastic and metal housings.
- Managed engineering changes in Teamcenter and WERS.
- Received **Great Achiever Award** (2012, 2013) for exceeding yearly goals by 180%.

HVAC / Industrial Refrigeration Engineer (Project Portfolio) — COCIMEC S.A. de C.V. / JK Construcciones Civiles y Mecánicas S.A. de C.V.

2010 – 2021 · Querétaro, MX

- Co-led design and implementation of industrial refrigeration and HVAC systems for food, pharmaceutical, and manufacturing clients.
- Designed, fabricated, and commissioned cold rooms, pre-coolers, and stability chambers.
- Integrated thermodynamic, hydraulic, and electrical systems into turnkey solutions.
- Directed field installation, testing, and optimization for energy-efficient performance.
- Developed control panels (UL 508A) and automation systems for climate regulation.

HVAC Mechanical Design Engineer — Frimax S. de R.L. Mar 2009 – Apr 2011 · Guadalajara, MX

- Designed HVAC systems including ducting, piping, and load calculations.
- Integrated PLC-based control for temperature and air quality management.
- Delivered SolidWorks/AutoCAD models and project feasibility studies.

Mechanical Elevators Design Engineer — Interlift de México · Ascensores Volta

2005 – 2008 · Mexico & Argentina

- Designed and supervised residential and commercial elevator systems (traction, brakes, safety mechanisms).
- Gained early experience with dies and injection molding for elevator components.

EDUCATION

- **B.S. Mechanical Engineering** — Universidad Nacional del Nordeste, Argentina (2005). Thesis: Tower Crane Design / 1000HP Hydraulic Pump System.
- **Mechanical & Electrical Technician** — ENET 1, Argentina (1994).

LANGUAGES

- Spanish: Native
- English: Professional proficiency

PATENT

Interchangeable Connectivity Modules — MX2016013231A. Modular system for vehicle instrument panels and consoles.

CERTIFICATIONS & TRAINING

- CATIA V5 Surfacing (TATA Technologies, 2016)
- ANSYS CFD Analysis (UNAM, 2018)
- PDMLink & Kola PLM (Volvo Trucks USA, 2019)
- IATF 16949 Transition Awareness (2018)
- Problem Solving & Audit Readiness (2017–2018)
- Business Development Diploma — UdG & Gov. of Jalisco (2012)
- Wind Energy & Turbine Design — CNEA (2006)

TECHNICAL SKILLS

CATIA V5/V6 · Siemens NX · SolidWorks · Inventor · AutoCAD · ANSYS · Moldflow · DFM / GD&T · Teamcenter · Windchill · SAP / Agile · UL 508A Panels · Thermodynamic Analysis · PLC Integration · HVAC Design · Microsoft Project

ADDITIONAL

Musician (guitar & piano), avid reader, and animal protection advocate. Experience in RF/electronics: PCB design (OrCAD, SolidWorks), VHF/UHF antennas, and linear amplifiers.