



Jorge Gutierrez, M.Eng

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Montreal, QC

I am a qualified mechanical engineer with over ten years of experience developing several revolutionary devices. Skilled in SolidWorks, product development, and Design for manufacturability. I have a diverse background in leading manufacturing and Capex projects and finding creative solutions with different approaches and technologies. I am self-motivated, reliable, a problem-solver and an advocate of continuous formation and improvement.

SKILLS

Technical skills: Product Development, Design for Manufacturing, Computer-Aided Design (CAD), Computer-Aided Manufacturing (CAM), Prototyping, CNC Manufacturing, 3 & 5 Axis Milling, 3D Printing, Injection Molding, Testing, FEA, CFD, SolidWorks, HSMWorks, Mastercam, Microsoft Office, Adobe Creative Cloud, GD&T (ASME Y14.5), ISO 13485, FDA 21 CFR 820, Python.

Soft skills: Adaptability, Teamwork, Interpersonal Skills, Critical Thinking, Creativity, Problem-Solving, English, Spanish, French (debutant).

CERTIFICATIONS

SolidWorks Associate – Mechanical Design

EXPERIENCE

Design Engineer (Contractor)	Remote/MX/CAN
<i>Bioana</i>	01/2021 – Current

- Led the design team in delivering a functional intraocular lens that can efficiently link nerve impulses with the natural mechanisms for accommodation within the human eye. Creating an unprecedented accommodating intraocular lens. Considered a ground-breaking technological advancement for the ophthalmic industry.
- Conceptualized and refined innovative product concepts. Collaborating with clients and experts.

Design & QA Engineer	MX/US/CAN
<i>GSE Biomedical</i>	02/2011 – 04/2021

- Led the manufacturing department.
- Assisted the design department in incorporating the manufacturing technologies and limitations to the parts and devices design.
- Collaborated with physicians, product planners and industrial designers to conceptualize and refine product concepts.
- Designed CAD models for innovative devices, molds and fixtures/jigs.
- Produced functional prototypes of devices with manufacturing technologies such as 3 & 5 axis milling, injection molding, laser cutting and lathe.
- Designed and manufactured fixtures to implement testing protocols for new equipment.
- Made parts drawings under GD&T guidelines (ASME Y14.5).
- Budgeted OTS parts, materials, equipment, and labor to determine project feasibility.
- Collaborated with suppliers on raw material specifications and dimensions.
- Manufactured custom-designed implants improving the lives of 3 patients in unpleasant moments.

Projects:

- FDA-cleared (510k) Resorbable Knotless Soft-Tissue Repair Device for arthroscopic and open surgery.
- Mexico's COFEPRIS-approved Emergency ICU Ventilator in response to the COVID-19 pandemic.
- Designed and manufactured personal protective equipment (face shields and protective suits) donated for COVID-19 purposes.

EDUCATION

McGill University

Master of Engineering - MEng Mechanical Engineering

Cumulative GPA: 3.95

Montreal, QC

2023

Thesis: “Dynamic Coronary Artery Phantom Test System Emulating Cardiac and Respiratory Motion”

In this work, a Dynamic Phantom Test System was designed, prototyped, and tested to emulate the impact of Cardiac and Respiratory Motion on the coronary artery. A stenotic coronary artery phantom was developed, as well as a hemodynamic circuit representing the circulatory system and a cam mechanism to generate the movement of the coronary artery. A company successfully uses the device for testing and fine-tuning medical measurement equipment.

ITESM

Bachelor of Applied Science (B.A.Sc.)

Major in Mechatronics Engineering

Hermosillo, Son., Mexico

2010

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Portfolio

