



# Masoud Sharifi

CTO, R&D Manager, Project Manager, Regulatory Affairs Manager

+989126062758



Masoud\_ferma06@yahoo.com



Iran, Tehran, District 22



[LinkedIn Profile](#)



+989126062758



Dec 1989



[SinaMed.ir](#)



## Soft SKILLS

Leadership



Problem Solving



Decision Making



Communication



Innovation



Time Management



Strategic Planning



Teamwork



Mentoring & Talent Development



## Technical SKILLS

Research And Development



Surgical Robots



## SUMMARY

Dynamic Chief Technology Officer with over 5 years of experience driving innovation in the medical robotics sector, complemented by a robust academic foundation including a PhD in Mechanical Engineering. Expertise encompasses technology strategy, operational efficiency, and cross-functional collaboration, effectively steering projects that enhance product capabilities and align with business goals. Proven leader driving cross-functional teams to design and manufacture advanced robotic telesurgery systems, surgical simulators, operating tables, and articulated instruments. Expert in diverse manufacturing processes including machining, casting, injection molding, forming, and finishing. Adept at ensuring compliance with FDA and CE regulations, 15+ international medical device standards (IEC 60601 series, sterilization, biocompatibility, IEC 62304, and more), delivering cutting-edge solutions that advance robotic and laparoscopic surgeries and improve patient outcomes.

## PROFESSIONAL EXPERIENCE

September 2020 – May 2025

**Chief Technology Officer, Sina Robotics and Medical Innovators Co. Ltd.**  
Tehran, Iran

In the role of Chief Technology Officer at SinaMed, responsibilities include leading R&D department consisting Mechanical and Industrial Design, Electrical and Software teams, overseeing development projects, and leading regulatory affairs to assure the medical device regulations compliance.

### Leading R&D department:

- Design and manufacturing the Sinaflex, a robotic telesurgery system.
- Design and manufacturing 5mm Monopolar and Bipolar Articulated instruments (Single use and Reusable).
- Design and manufacturing an Operating Table for the Sinaflex.
- Design and manufacturing laparoscopic and robotic surgery simulators.
- Design and manufacturing different ergonomic handles for different surgeons.
- Developing an optimization algorithm for the robotic Port Placement to optimize the surgery results.
- Optimizing the design and manufacturing processes to reduce the manufacturing costs by 15%.
- Evaluation and selection of the electrical components including motors and sensors.
- Designing electrical boards for the surgical robots and simulators.
- Developing the Sinaflex PLC codes using TwinCAT3.
- Developing linear and nonlinear controllers for the Sinaflex to filter surgeon's hand trauma, force feedback, weight balance and etc.
- Successfully leading the development and implementation of the first robotic telesurgery in Iran and Indonesia.
- Developing basic VR robotic and laparoscopic training simulations using Unity.
- Simulating advanced laparoscopic surgeries in the VR environment.
- Develop an image processing algorithms to recognize the instruments, tissues and arteries.
- Design a Robotic Training Curriculum to enhance robotic surgery education.
- Applying for internal and international Patents.

### Leading regulatory affairs:

- Implementing ISO 13485, ISO 9001 and GMP standards and receiving the certificates (IAF accredited).
- Implementing IEC 60601-1 standard on surgical robots, simulators, operating tables, and robotic and laparoscopic instruments.

## Robotics



## Medical Device Regulation (CE & FDA)



## Risk Management & Safety Engineering



## Data Analysis & Performance



## Optimization



## Technology Strategy & Road Mapping



## Budgeting & Resource Allocation



## Agile project management



## Mechanical Design (SolidWorks)



## FEM Analysis (Abaqus)



## Manufacturing Methods



## Computer Skills



## Programming (MATLAB, Python, C#)



## PLC (TwinCAT)



## Industrial Design (Rhino 3D)



## Altium Designer



## Language

### English



### Farsi



### French



- Implementing IEC 60601-2-2 standard on surgical robots and robotic and laparoscopic instruments.
- Implementing IEC 60601-1-2 standard on surgical robots, simulators, operating tables and robotic and laparoscopic instruments.
- Implementing IEC 60601-2-46 standard on operating tables.
- Implementing IEC 60601-1-8 standard on surgical robots.
- Implementing IEC 80601-2-77 standard on surgical robots.
- Implementing IEC 62304 standard on surgical robots and simulators.
- Implementing IEC 62366 standard on surgical robots, simulators, operating tables, and robotic and laparoscopic instruments.
- Implementing ISO 10993 standard on robotic and laparoscopic instruments and surgical handles.
- Implementing ISO 17664 standard on surgical robots, monopolar, bipolar, single use, and reusable robotic and laparoscopic instruments.

### Project Management:

- Oversaw the implementation of new technologies, enhancing operational efficiency and product capabilities.
- Collaborated with cross-functional teams to align technology projects with business goals.
- Managed research and development activities, ensuring projects met industry standards and regulatory requirements.
- Monitored technological trends to inform strategic planning and foster competitive advantages.
- Performing more than 40 and 10 robotic surgeries in Iran and Indonesia on living animals and humans, respectively.
- Leading the project of manufacturing more than 2000 mechanical parts of the Sinaflex in less than 3 months.
- Leading the project of the first telesurgery in Iran (7km distance), a cooperation between SinaMed, Sina and IKH hospitals, and the largest mobile network operator in the middle east (MCI).
- Leading the project of the first telesurgery in Indonesia (500km distance), a cooperation between SinaMed, Dr. Sardjito and Hasan Sadikin hospitals, MCI and the Indonesian mobile telecommunication service (Telkomcel).

Jan 2018 – Sep 2020

### Research Assistant, Polytechnique Montréal

Montreal, Canada

Assisted in various research projects in the field of mechanical engineering at Polytechnique Montréal, focusing on innovation and development.

- Developing the most complete lower extremity musculoskeletal model.
- Conducted experiments and analyzed data to assist in the development of new methodologies.
- Collaborated with faculty and peers to produce research papers and presentations for academic conferences.
- Maintained laboratory equipment and ensured compliance with safety standards and protocols.

## Education

### Doctor of Philosophy- PhD in Mechanical Engineering, École Polytechnique de Montréal

January 2016 – January 2020

### Master's degree in Mechanical Engineering, Sharif University of Technology

January 2013 – January 2015

### Bachelor's degree in Mechanical Engineering, K. N. Toosi University of Technology

January 2009 – January 2013