

RAMI KHALIL

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A result-focused and objective-driven mechanical design engineer with extensive international experience has evolved into a mechanical design consultant and machine designer expert, specializing in oil & gas downhole circulation and drilling tools, complex mechanical systems and automation, subtractive and additive manufacturing, deep hole drilling technologies, CNC machines, and robotics. Strong theoretical and practical fundamentals and principles support the effective ability to manage various projects related to complex mechanical systems and mechanisms, building a diverse skill set as a professional mechanical design engineer. Exceptional interpersonal skills facilitate the delivery of exceptional results for clients and organizations, evidenced by a successful portfolio.

Primary duties entail spearheading the design and production processes, providing high-reliability solutions that are commonly used for machines and oil & gas, and ensuring project compliance with the most recent standards such as oil & gas standards (API and DS-1) for extreme conditions such as shock, vibration, and temperature.

Highly skilled in executing the entire project planning and delivery cycle, including identifying technological advancements, conducting market research and analysis, conceptual design and verification, producing prototypes, assembling, testing and conducting evaluations, mentoring, and directing delivery teams, setting R&D goals, and selecting and sourcing of complex systems (mechanical, hydraulic, pneumatic, etc.) that can withstand harsh conditions.

Willing to face new challenges in mechanical system design, particularly in the fields of robotics, additive manufacturing, CNC machines, and oil & gas.

EXPERIENCE

AUGUST 2016 – PRESENT

R&D SUBJECT MATTER EXPERT (SME), MECHANICAL ENGINEERING.

MIT TECHNOLOGIES SDN. BHD.

Progressed through several roles starting as a Senior Mechanical Engineer in August 2016, advancing to R&D Mechanical Manager in December 2019, and currently serving as R&D Subject Matter Expert in Mechanical Engineering since January 2021.

- Successfully participate in and execute Oil & Gas drilling and circulation tools design and engineering processes, aligned with the company's management strategy, ensuring top-quality products that compliance with the market requirements and international standards.
- Ensure comprehensive design and engineering documentations, including patent papers, detailed manufacturing and assembly drawings, material specifications, simulation and calculation reports (FEA, CFD, CAE), BOM and BOQ lists, technical specifications sheets, and assembly and operations manuals. Control the design change and modification process by efficiently managing the database and revisions of designed components.

- Design and produce necessary testing jigs and assembly setups, and deliver effective testing procedures and manuals with all relevant documents, diagrams, checklists, etc. Supervise and perform rigorous qualification tests and evaluations on tool design prototypes, adhering to QHSE standards and regulations.
- Maintain continuous communication with the manufacturing team to ensure compliance with product material and finished product quality standards.
- Maintain ongoing collaboration with the sales department to identify new design requirements, improve current designs, and attain market leadership in the downhole tools industry through the commercialization of new products during market testing.
- Communicate continuously and directly with suppliers, identifying cost-effective components (hydraulic, pneumatic and electromechanical), and tracking current patents and research in the field.
- Collaborate effectively with company management on upcoming and ongoing design planning and lead mechanical design teams to achieve efficient and effective project outcomes.
- Provide sustainable training, development, and skill-acquisition opportunities for the next generation of design and product development engineers, aligned with the company's business plan for diverse engineering skill sets.

Achievements:

- Delivered well-designed iBHC tools (Intelligent Bore Hole Cleaning) with two hydraulic driving options and multiple sizes to meet market demands, supporting Oil and Gas operations.
- Enhancement of all sizes of heavy-duty iCWD tools (Intelligent Circulation While Drilling) by redesigning the mechanical driving system to withstand harsh environments and high temperatures.
- Improved tool specifications by doubling load ratings to handle 20ksi absolute pressure instead of 10ksi through redesigning relevant parts, using advanced engineering tools and programs, increasing marketability and promotion.
- Reduced manufacturing time, maintenance, assembly, and logistics procedures while improving storage capacity by standardizing and generalizing tools versions with interchangeable, well-designed parts.
- Eliminated the need for outsourcing special and critical items, equipment, and devices through full in-house production, reducing tool readiness time and costs.

AUGUST 2010 – AUGUST 2010

SENIOR MECHANICAL DESIGN ENGINEER.

COMEC FOR AUTOMATION AND CNC SYSTEMS

- Spearheaded the successful design and engineering of CNC machines, particularly waterjet machines, aligned with the company strategy, maintaining high product quality, and conforming to market and international standards.
- Guaranteed complete readiness of design and engineering documents for CNC machines, including manufacturing and assembly drawings, machine layouts, material specifications, simulations, BOM and BOQ lists, technical specifications, and manuals, and managed the design change and modification process through database updates and component revisions.
- Ensured the impeccable creation of testing jigs and calibration setups, delivered thorough testing and calibration procedures and manuals, and closely monitored

qualification tests and evaluations on machine prototypes, ensuring strict adherence to all procedures and protocols.

- Maintained constant communication with the manufacturing team to ensure material verification and finished product quality and collaborated effectively with suppliers and vendors to identify cost-saving components (hydraulic, pneumatic, and electromechanical) while keeping abreast of current research and papers.

Achievements:

- Masterfully crafted and flawlessly executed the Abrasive Transmission System that seamlessly integrates with all waterjet machine series, along with a cutting-edge Abrasive Feeder. Utilizing electropneumatic technology enabled rapid abrasive filling and refilling.
- Streamlined and optimized the mechanical systems of the medium-sized (3m x 1.5m) laser cutting machine, reducing costs, logistics, and manpower while ensuring ease of manufacturing, assembly, testing, and shipping.
- Collaborated with the design team to successfully launch the Infinity Series of waterjet machines, the largest and most versatile machine in the company portfolio.

SEPTEMBER 2009 – JANUARY 2010

MECHANICAL DESIGN ENGINEER.

AL-BATTAL FOR MOLD DESIGN AND MANUFACTURING

- Crafted state-of-the-art plastic injection molding tools and fixtures, incorporating prototyping and testing.
- Scrutinized product design specifications and confirmed mold design compliance.
- Performed mold flow analysis to anticipate and eliminate any challenges during the molding process.
- Refined the mold design to achieve maximum efficiency and cost savings in production.
- Actively pursued knowledge of the most recent advancements in mold design and manufacturing technology.

Achievements:

- Conceptualized and crafted diverse innovative products using professionally designed molds, including toys, bottles, confectionery tools, and covers.

EDUCATION

SEPTEMBER 2012

M.SC. INDUSTRIAL ENGINEERING (NOT COMPLETED).

UNIVERSITY OF DAMASCUS

Studied the first year of the Master of Science in Industrial Engineering at Faculty of Mechanical & Electrical Engineering, University of Damascus, Syria.

- CAD/CAM advanced application, quality systems, QHSE, facility planning and organizing, operation research, human resources, financial management.

MARCH 2011

B.SC. MECHANICAL DESIGN ENGINEERING.

UNIVERSITY OF DAMASCUS

Obtained the Bachelor of Science in Mechanical Design Engineering, Production Engineering specialization, at Faculty of Mechanical & Electrical Engineering, University of Damascus, Syria. GPA 72.21% with “Very Good” rating.

- Graduation Project: about Stewart’s platform under title of: Design & Executing Study of a Special Kind of Parallel Robots -Stewart Platform. The project got 95% as a final mark.
- Machine Design, machine theory, statics, kinetics, dynamics, material science, metal science, material mechanics, hydraulics and pneumatics, automation and control, fluid mechanics, CAD, CAM, finite element analysis, computational fluid dynamics, CNC, theory of cutting, thermodynamics.

COURSES AND CERTIFICATES

- Diploma in Manufacturing and Product Design at Alison for international online education. Credential ID is 349-3697158.
- Certificate of Accomplishment: Product Design at Alison for international online education. Credential ID is 431-3697158.
- Certificate of Achievement: API Specification Q1, Ninth Edition, Quality Management System Requirements Fundamentals at Next Level Quality Consulting, Malaysia. Credential ID is 11504
- Certificate of Accomplishment: Project Management Professional preparation course as per PMI at Pyramid Consulting, Australia.
- Certificate of Accomplishment: Principles of Scientific Research Workshop at Syrian Society for Scientific Research.
- Certificate of Achievement: Mobile Robotics in collaboration with Swinburne University of Technology and Open2Study platform. Final score is 93%.
- Certificate of Accomplishment: SolidWorks at Human Resources Development Center, Syria.

- Certificate of Accomplishment: Autodesk HyperMill at Al-Ma’amoun International Center, Syria.

SKILLS:

TECHNICAL:

- Autodesk Inventor Professional.
- SolidWorks Premium.
- Autodesk Nastran.
- Autodesk CFD Simulation.
- MotionGen Pro.
- Automation Studio.
- C++
- FESTO FluidSIM.
- Autodesk HyperMill.
- DellCAM Power Mill.
- SurfCAM.
- Siemens Step7 PLC.
- LS, KGL-WIN PLC.
- Matlab.

MANAGEMENT AND ADMINISTRATIVE:

- JobBoss.
- Microsoft Project.

INTERPERSONAL:

- Driven by education and learning.
- Solution-focused, results-oriented, and career-driven.
- Adept at organization and productivity.
- Skilled in team management and leadership.
- Proficient in time and task management.
- Possess excellent communication skills.

LANGUAGES:

- Arabic: native.
- English: full professional proficiency.
- French: elementary proficiency.
- Malay: elementary proficiency.

PUBLICATION:

- Book: Robotics: Mechanics, Mathematical Analysis and Control.
ISBN-13: 978-620-2-35681-7.
ISBN-10: 6202356812.
EAN: 9786202356817.
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Language: Arabic.
Pages: 288.
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