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OBJECTIVES

- To add value through leadership and the design and optimization of mechanical systems and through clear, insightful thinking and comprehensive analysis.
- Capitalize on years of experience as a user of advanced modeling and simulation tools built upon a solid foundation of engineering principles and mechanical design.

SUMMARY OF SKILLS

- Strong and avid learner and creative thinker. Able to communicate concepts and ideas clearly. Able to isolate, analyze and solve complex systemic problems.
- Experienced in Computational Fluid Dynamics, solid modeling, finite-element analysis, instrumentation, data acquisition systems and design of overhead drilling equipment to API standards.
- Ability to design, implement and evaluate solutions to a wide variety of problems with a high degree of autonomy and a strong practical sense. Strong leadership skills.
- Highly computer literate with a wide range of experience in the simulation of fluid flows, stress analysis, making conceptual presentations, preparing extensive detailed reports, developing complex solid model assemblies, writing data acquisition programs and mathematically modeling physical systems.
- Advanced user of ANSYS Fluent, ANSYS Mechanical, Python and SolidWorks, among other analysis packages.
- Comfortable and experienced in international environments. Fluently bilingual in Spanish and English.

RELEVANT EMPLOYMENT EXPERIENCE

June 2018 – January 2020: Senior Mechanical Engineer. Raptor Rig

Completed the design of a twin power catwalk for Raptor's flagship rig. Designed a modular rack and pinion drive for the same 500T API capacity unit. Analysis leader of the engineering team. Administrator of the SolidWorks Enterprise PDM system.

February- June 2018: Senior Mechanical Engineer. Tangent Design Engineering.

Independently completed a wide range of projects from convective heat transfer, downhole rotating equipment, automated food processing, recertification of process equipment and pressure vessel design.

May 2014 – February 2018: Senior Mechanical Engineer. Xact Downhole Telemetry.

Responsible Stress Analyst of a novel tool for the acoustic transmission of offshore downhole data. Performed multiple design optimizations under complex combined loading, material non-linearities, contact hysteresis and narrow margins for error.

January 2010 – May 2014: Lead Research Engineer. TESCO Corporation.

Responsible for the design and analysis of the load path of TESCO's 500, 750 and 150 Ton top drives to API standard 8C for the design of overhead equipment. Co-inventor of over ten drilling-related U.S. Patents. Was one of ten TESCO people worldwide to be sent to the prestigious Global Institute for Leadership Development (GILD).

February 2007 – January 2010: Fluid Dynamics Research Engineer. Nova Chemicals Research and Technology Center

Designed and evaluated a liquid – vapor cyclone separator. Modified a rotary catalyst feeder for a fluidized bed reactor. Simulated the overhead carryover of polymer droplets from an impingement separation vessel. Evaluated a series of candidate modifications to a primary gravity separator. Evaluated the frequency response of the inlet manifold into a desuperheater valve. Optimized an exchanger transfer line resulting in triplicate on-stream time, among other projects.

November 2005 – January 2007: Mechanical Engineer in Project Estimating and Preliminary Engineering. Krupp Canada Inc.

Prepared proposals and feasibility studies for multi-million-dollar material handling projects. Designed the layout and calculated power requirements for highly sophisticated overland conveyor systems. Participated in the mechanical troubleshooting of elements of a crushing plant in the Northern Alberta Oil Sands.

January 2004 – November 2005: Project Engineer. Outland Technologies, Inc.

Designed and field tested an expander/generator at a natural gas compression station. Integrated a ROC 809 industrial controller with a LabVIEW high-speed DAQ.

1998, 2000-2002, 2004: Teaching/Laboratory Assistant; Consultant. Department of Mechanical Engineering, Queen's University, Kingston, ON

Co-authored a paper entitled ***Teaching machine design using a constrained project based approach***. Designed a series of machine design demonstrations. Designed and implemented a LabVIEW data acquisition system for vibration testing.

1991–2002 (part time): Assistant to the Director. FORMA, Caracas, Venezuela

Taught a Mechanical Design course. Worked on project proposals, objective and scope definition, budgeting and project planning.

EDUCATION

2002 M.Sc., Mechanical Engineering. Queen's University, Kingston, ON

- Attained 87% average in Ph.D.- and M.Sc.-level courses.
- Thesis: Design, manufacture, and testing of a metal forming friction sensor.

1999 B.Sc., Mechanical Engineering . Queen's University, Kingston, ON

- First Class Honours. Recipient of W. T. Pound Engineering Design Award
- Project Manager of the 1998/1999 Queen's Mini Baja ® Design Team.

1995 International Baccalaureate (IB) Diploma. United World College of the Atlantic, Wales, UK

- Earned full scholarship on the basis of academic performance