

RESUME OF QUALIFICATION AND EXPERIENCE

LING ZHU, P.ENG.
17510 - 102 Avenue
Edmonton, Alberta
T5S 1K2

EMPLOYMENT HISTORY

2011 – Present **ALLAN R. NELSON ENGINEERING (1997) INC., Edmonton, Alberta**
Mechanical Engineer

- Carry out engineering analysis on structures and associated equipment for drilling and service rigs.
- Design oilfield equipment and structures according to API Specifications and CAODC Recommended Practices.
- Prepare drawings using AutoCAD, SolidWorks, and FEA analysis using S-Frame and ANSYS.
- Certification of oilfield equipment in accordance with CAODC recommended practices.
- Prepare engineering reports for rig design review and failure analysis.

2006 - 2011 **HYDUKE ENERGY SERVICES INC., Nisku, Alberta**
Senior Design Engineer

- Analysis, Calculation, Design binder and Drawing checking for Service Rig package (including mast and carrier).
- Provided Finite Element Analysis for existing structures in order to determine ratings and repair procedure, such as Drilling Rig Mast and Substructure, Service Rig, Racks, spools and cranes etc.
- Provided design calculations, structural analysis and engineering drawings for TC406 and TC44 fuel tank used in drilling rig and site inspections for issues raised during fabrication in shop.
- Stress analyzed for Double Studded Wellhead Adapter Flange according to API 6A and 16A.
- Stress analyzed for Deadline Anchor; Top drive Dolly; Lugs; Casing Jack; Wrench; Becket, etc., according to API 7K or 8C.
- Stress analyzed 3-D model for Snub Secure; Swabbing Mast Carrier; Pump Base; Crank Arm Lifting and Jib, etc., by using ANSYS Workbench.
- Trained co-workers to use SolidWorks.

2004 - 2005 **UNIVERSITY OF ALBERTA, Edmonton, Alberta**
Student of Mechanical Engineering

Successfully completed various challenging projects, including:

- Analyzed the stress distribution in Cleaver Brooks Watertube Boiler using ANSYS.
- Designed a normally closed MEMS microvalve and simulated it by using ANSYS.
- Molded and simulated orthodontic appliance; calculated the forces and analyzed the stress for orthodontic appliance by using Pro/ENGINEER.

1989 – 2002

WUHAN HEAVY DUTY MACHINE TOOL WORKS, Wuhan, Hubei, China
Mechanical Engineer

- Responsible for the design development, qualification, process development and documentation of product designed.
- Designed specialized tools and machine parts, such as hexagon coring bits; helical gear.
- Designed and developed all detailing and assembled drawings, bills of materials and technical specifications for components of equipment, including lathes (C620, C640), milling and boring machines (M6140).
- Designed non-standard auxiliary equipment in accordance with particular production/manufacture requirements, such as jigs and molds for honing machine; dies for lathes machine to manufacture the main ball screw of 15 m.
- Designed plastic extrusion dies for single and twin screw extruders.
- Provided technical support for changes to existing machines.
- Redesigned the transmission system for Honing Machine, designed an automatic checking and control system, and increased its machining capacity and accuracy.
- Selected appropriate components and material in accordance with the operational requirements.

EDUCATION

Master of Engineering in Mechanical Engineering, University of Alberta, Edmonton, Alberta (2004–2006)

Bachelor Degree of Engineering, Huazhong University of Science and Technology, Hubei, China (1985-1989)