Hussnain Ahmed Yaser

859-628-3874

yaser.hussnain@gmail.com 521 Martin Luther King W, Apartment# C-40, Cincinnati, OH 45220

TECHNICAL SKILLS

- Proficient in **design and analysis** of Mechanical Engineering systems and thermal components (heat exchanger, thermal energy storage unit and HVAC system components)
- Proficient in **thermal and hydraulic design theory** of recuperators and regenerators
- Proficient in heat transfer, fluid dynamics, thermodynamics and calculus to design heat-exchangers
- Proficient in **MATLAB**, **C++** programming and MS office Suite, MS Visio & **Microsoft Project**
- Proficient in **Solidedge** and **Pro-engineer Wildfire** 3D solid modeling tools
- Proficient in **design optimization** and **Finite Element Analysis (FEA)** of the thermal systems
- **Two years work experience** in oil and gas industry; worked at well-head compressor commissioning site and natural gas processing plant
- Experienced in **hydraulic pressure testing system, natural gas compression packages**
- Experienced in reading and interpreting **P&IDs**, piping and process drawings
- Experienced in data analysis, product design and problem solving
- Excellent negotiation, communication skills and time management skills

MASTER'S THESIS

Designed and simulated compact plate heat exchanger for latent thermal energy storage (LTES) system

- Performed design optimization, finite element analysis (FEA) of 5-ton LTES tank
- Developed schematic diagram and operating procedure of the novel thermal energy storage system
- Simulated LTES tank heat transfer process to analyze effect of various design parameters on melting and freezing rate
- Calculated pressure drop inside flow passages of corrugated plate heat exchanger
- Performed economic feasibility of the complete system

TECHNICAL EXPERIENCE

Eni Pakistan Limited, Karachi, Pakistan

Graduate Trainee Engineer 08/2008 to 07/2009

- Designed and implemented 3-R (Reduce, Reuse & Recycle) waste management plan for Bhit Gas Field. Project **saved PKR 2.0 million per year** and reduced **20%** of solid waste generation
- Developed Green House Gases calculation program which **saved PKR 250,000/year** and reduced data processing time
- Analyzed gas processing plant's monthly and quarterly samples testing reports
- Conducted HSE qualitative risk identification, assessments and proposed risk mitigation measures
- Performed HSE pre-qualifications for new contractors
- Computed HSE key performance indicators (Spills, Waste, GHG emissions, LTIF, Fatality)
- **Bhit well-head compressor commissioning project:** Worked on natural gas compressor package commissioning and installation project well-head location. Learned about multi-stage rotary screw compressor's operation, fuel gas conditioning and temperature control units

Crescent Steel and Applied Products Limited, Hyderabad, Pakistan

Intern 06/2006 to 08/2006

- **Hydraulic pressure testing system for spirally welded steel pipes:** Studied line pipe hydraulic pressure testing system. Prepared report about system's design specifications, testing procedure and safety guidelines

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ADDITIONAL EXPERIENCE

Eni Pakistan Limited, Karachi, Pakistan
Contracts Officer 08/2009 to 09/2010

- Managed and executed the procurement process (purchase requisition to contract award) to purchase technical services for completion of operations at oil & gas exploration and production field
    - Completed contract award process for all the contracts (100+) before the deadline
    - **SAP Data Migration Project:** Proactive member of ERP Change-Project team which successfully migrated over **100 contracts and 300 blanket orders** from Maximo (previous ERP system) to SAP (new ERP system)
    - **Ability to multi-task:** Efficiently worked on more than one contracts simultaneously
    - Completed more than **105 contracts** in one year and saved more than **USD 5.0 million**
    - Maintained procedural fairness and transparency in contract evaluation and award process

EDUCATION

- **Master of Science in Mechanical Engineering** Expected 08/2012
  University of Cincinnati, Cincinnati, OH GPA (3.87/4.00)
  Major courses: Advanced Heat Conduction-I, Advanced Heat Conduction-II, Industrial Heat Exchanger Design, Advanced Heat Convection-I, Advanced Heat Convection-II, Gas Turbine Combustion
- **Bachelor of Science in Mechanical Engineering** 06/2008
  Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Swabi, Pakistan GPA (3.38/4.00)
  Major courses: Engineering Graphics, Mechanics of Solids, Fluid Mechanics, Manufacturing Technology, Numerical Analysis, Design of Machine elements, Thermodynamics, Heat and Mass Transfer, Mechanical Engineering Design, Internal Combustion Engines, Stress Analysis, CAD/CAM, HVAC systems

ACADEMIC PROJECTS

- **Senior year design project**
  Increasing thermal efficiency of gas turbine power plant by evaporative cooling
  Conducted experiments to analyze the effect on compressor work, and thermal efficiency of gas turbine power plant during summer's conditions. Injected water (micro size droplets) in compressor inlet manifold to cool the air and introduced regeneration after the compressor
- **Designed LPP gas turbine combustor to reduce emissions**
  Reduced NO_x, CO_x emissions of E^3 low emission General Electric gas turbine combustor by using design procedure of modern Lean Premixed Pre-vaporized (LPP) annular combustor
- **Net-zero heating load solar house**
  Designed a solar house with latent storage unit; it has net-zero power load for space heating and hot water
- **Numerical analysis of heat transfer inside square pipe**
  Numerically solved the laminar fluid flow and heat transfer inside square channel with fixed temperature boundary conditions
- **Numerically compute temperature distribution in the 2-D wall**
  Numerically computed 2-D temperature distribution in wall of a combustion chamber at steady state