JESSICA B. ZHAAN

8421 Silver Star Court, Unit 13C • Toledo, Ohio 43602
zhaanmse@myisp.com • (419) 555-2123

MECHANICAL ENGINEER

Highly analytical, performance-driven engineering professional with 10+ years' experience creating innovative, cost-efficient designs.

- Solid expertise in applied research, new content development, simulation, and validation.
- Broad knowledge in the alternative fuels industry, including repeated success developing prototypes that improve marketability for previously unfeasible technologies.
- Superior problem-solving and time-management abilities; adept at identifying the root cause of issues and implementing creative, targeted solutions.
- Team spirited with effective communication and presentation skills, able to coordinate with management, vendors, and staff to achieve goals.

TECHNICAL PROFICIENCIES

Software: Autodesk, AutoCAD, Mathcad, LabVIEW, Rhino, MATLAB, Mathematica, SolidWorks, MS Project, MS Office Suite (Word, Excel, Outlook, PowerPoint)

Research & Design: Project / Quantification Planning, Finite Element Analysis (FEA), ISO & Safety Compliance, On- and Off-line Test Development, Statistical / Process Analysis, Design & Validation, Manufacturing Specifications

PROFESSIONAL EXPERIENCE

FRACZAL, INC. – Toledo, Ohio

Mechanical Design Engineer, 3/2011 – Present

Collaborate with product developers and engineers to develop and operationalize state-of-the-art alternative power plant concepts for automotive applications.

Research and review existing technologies based upon target markets; apply design analysis, FEA process, and non-linear engineering concepts to create plans. Coordinate with suppliers / vendors and internal engineering resources to obtain prototype parts and equipment; define functional, dimensional, and visual requirements for components. Evaluate and demonstrate manufacturing feasibility and technical justification for design approach; conduct design validation. Maintain comprehensive documentation of complex design activities.

- Doubled life of liquid hydrogen in vehicle-mounted tanks in collaboration with Chemical Engineers during design of hydrogen re-uptake and sublimation reclamation system.
- Conceived, designed, and prototyped a light-weight infinitely variable transmission (IVT) for use with hydrogen fuel cell engines, resulting in 6% improvement in fuel efficiency.
- Played integral role in patent-pending electric motorcycle concept combining miniaturized IVT with regenerative braking.
- Developed low-weight, low-friction piston assembly for air-pressure vehicle (air car), increasing top speed of prototype by 11% with no decrease in range.

Continued...