

Jessica B. Zhaan  
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## Work 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.

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.

GAD Transmissions – Detroit, Michigan  
Mechanical Engineer, 8/2008 – 3/2011

Researched and designed new auxiliary equipment to ensure ongoing industry advantage for a CVT / IVT transmission manufacturer.

Enabled 11% increase in output across three lines by designing, prototyping, testing, and rolling out faster robot-arm assembly.

Contributed to development of new belting system for flagship CVT product, leading to 3% friction decrease during high-RPM operations.

Elantro Tool and Die – Lincoln Park, Michigan  
Jr. Mechanical Engineer, 4/2006 – 7/2008

Integral to design of new and upgraded equipment for a leading supplier of automotive dies for General Motors.

Offered major contributions to three-year line overhaul plan, submitting multiple schematics for peer review and validation; concept accepted and integrated into final rollout.

## Education & Credentials

Master of Science in Engineering (MSE), Mechanical Engineering, 2005  
University of Michigan — Ann Arbor, Michigan

## Technical Proficiencies

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