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## MECHANICAL ENGINEER

*“James worked well at evaluating problems, gathering data and measurements, and developing solutions. And, he exceeded expectations on design.”*

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### Cost & Time Efficient Design-Product Testing & Improvement-Procedural Documentation Development

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Innovative, results-driven Mechanical Engineer with a background in conceptual and developmental design. Superb problem solver with the ability to effectively analyze and interpret data in order to develop design improvement solutions. Strong team-player with the ability to synthesize team efforts to meet project objectives. Exceptional proficiency with Solidworks, Mathematica, Matlab, CAD Oriented, MathCad, COSMOSworks, and C++. Proficient with machining tools, such as Milling Machines, Band Saws, and Lathes. Attended two-day seminar in Lean Manufacturing.

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## EDUCATIONAL BACKGROUND

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ANY UNIVERSITY, Anytown, PA

**Bachelor of Science in Mechanical Engineering**, 5/2009

**GPA: 3.355 (Dean's List: Fall 2007, Spring & Fall 2008)**

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## PROFESSIONAL EXPERIENCE

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ABC ENGINEERING, Anytown, PA

With 40 locations in 15 countries and a comprehensive network of distributors, ABC Engineering is the world's largest manufacturer of metal bearings.

**Manufacturing Engineering Intern**, 5/2008 - 9/2008

- **Goal:** Redesign bearing drill fixture for filament winding bearing to eliminate loading safety hazard.
- **Procedure:** Initiated conversations with machine operators to inform process of evaluating problem and determining best possible design solution. Utilized ideas gained from discussions, gathered data and measurements, and designed/3-D modeled (using Solidworks 3D) fixture that would improve procedural safety and efficiency. Developed procedural documentation to inform process for current and future operators.
- **Results:** Redesign reduced operator errors and changeover time, resulting in improved safety and efficiency. ABC Engineering committed to migrating from 2D AutoCAD to 3D Solidworks for all retooling. Procedural documentation was reviewed and accepted with limited modification.

ANY UNIVERSITY, Anytown, PA

**Senior Clinic Project Team Member, 123 Systems —Crane Project**, Fall 2008

- **Goal:** Redesign existing crane to go high enough to reach radar dish, without a great increase in cost.
- **Procedure:** Utilized Matlab and ran calculations to analyze various attachment prototypes for crane.
- **Results:** Designed attachment model that reached radar dish, using limited amount of material and saving costs.

**Junior Clinic Project Team Member, Smith Glass—Flask Project**, Spring 2008

- **Goal:** Redesign cell culture flask for Smith Glass to improve production efficiency.
- **Procedure:** Tested existing design, designed assembly tools, and redesigned flask to simplify assembly process.
- **Results:** Optimized design and developed tools that improved production efficiency.

**Junior Clinic Project Team Member, Biodiesel Testing Duct Project**, Fall 2007

- **Goal:** Design duct to keep air and droplet velocity close, restraining droplet to laminar and spherical conditions.
- **Procedure:** Developed equation using conservation of mass and analyzed fluid flow in Cosmoflow.
- **Results:** Designed/fabricated square duct prototype with windows for high speed camera, laser to make emissions visible, air straightener, and air volumizer.

**Thermodynamics Project Team Member, Air Compressor Project**, Fall 2007

- **Goal:** Design air compressor that would build up to 150 psi.
- **Procedure:** Used thermodynamics and mechanical design principles to analyze different compressor layouts.
- **Results:** Met goal of designing and fabricating an air compressor that built 150 psi.