

CALVIN TOOTHAKER

CATOOTHAKER@GMAIL.COM

608-213-7969

OBJECTIVE

I am a creative and experienced mechanical engineer with an interest in high-energy companies that create and utilize sustainable products and practices. I have in-depth knowledge of engineering principles, expertise with complex modeling using SolidWorks, and 12+ years of experience in new product design, development, and commercialization.

SKILLS

- New Product Design
- Design for Manufacturing
- Design for Assembly
- Materials Selection
- Prototyping
- GD&T per ASME Y14.5
- Design of Experiments
- Root Cause Analysis
- Management of offshore manufacturing
- Regulatory compliance-UL, ICC, MIL-STD
- MS Excel, MS Access, MS Word
- Certified SolidWorks Professional - CORE
 - Advanced Surfacing
 - Advanced Sheet Metal
- Finite Element Analysis (FEA)
 - SolidWorks Simulation
- Adobe Photoshop and Illustrator
- Creative Problem Solver

AWARDS & RECOGNITION

- Solé Power Tile (SRS Energy) was awarded
 - Popular Science 'Best of What's New'
 - 2010 Edison Award, Gold
 - Featured in November 2010 issue of National Geographic

PATENTS

[US20160100238A1](#) - Ruggedizer for communications headset (application)

[US20160007112A1](#) - Restricted ball and socket joint for headset ear cup (Grant)

[USD790506S1](#) - Communication headset (Grant)

WORK EXPERIENCE

RETHINIK ROBOTICS

Senior Mechanical Engineer

Boston, MA

08/2015 - Present

Rethink Robotics designs and manufactures flexible and cost-effective collaborative robots

- Coordinated the transition from prototype to mass production
- Validated early stage designs using SolidWorks Simulation finite element analysis
- Created detailed part and assembly drawings for tight tolerance, high volume components
- Designed parts for various manufacturing methods, including CNC machining/turning, die casting, injection molding, extruding, sheet metal, compression molding, and reaction injection molding

SONETICS CORPORATION

Reliability Engineer

Portland, OR

03/2011-02/27/2015

Sonetics Corporation creates wireless team communication systems for harsh high noise environments

- Sole mechanical engineer responsible for all aspects of design, development, certification, reliability, and sustaining engineering
- Managed off shore vendors and manufacturers to ensure high product quality
- Launched 4 new product lines, including the company's most comprehensive redesign of its core product, resulting in a reliable, waterproof, wireless communication headset
- Identified and quickly responded to a customer's need by developing a unique and custom product directly resulting in the largest order in company history

SRS ENERGY*Reliability Engineer**SRS Energy is a start-up company which designs and manufactures aesthetically pleasing building-integrated photovoltaic modules*

Philadelphia, PA

09/2008-01/01/2011

- Lead engineer responsible for testing and certification of novel thin film photovoltaic product
- In charge of UL testing of the PV module resulting in the first ever certified photovoltaic roof tile
- Designed and implemented comprehensive test program for a photovoltaic product including creating test methods, sourcing test equipment, and performing root cause failure analysis
- Assisted in set-up a new manufacturing facility by designing fixturing, developing processes, and qualifying new equipment
- Ensured readiness of manufacturing facility for UL Factory Audit and ICC AC010 quality inspection.
- Designed new products and concepts in SolidWorks and created photorealistic renderings
- Created 3D models and GD&T drawings of our product and equipment using SolidWorks

ARIES ELECTRONICS*Product Engineer**Aries Electronics designs and manufactures engineered to order test and burn-in sockets*

Bristol, PA

01/2008-08/2008

- Designed engineer-to-order chip scale, test, and burn in sockets using SolidWorks
- Automated the CAD modeling and drawing creation of a major product line using a VBA rule based program with SolidWorks greatly reducing the engineering time per order
- Trained associates on high speed CNC driller/router

HONDA OF AMERICA MANUFACTURING*Product Development Engineer**Honda designs high quality automobiles is the world's sixth largest automotive manufacturer*

East Liberty, OH

02/2007-01/2008

- Worked with R&D in early planning stages of vehicle development to ensure design feasibility
- Conducted investigations on the manufacturing floor to determine root causes of failures
- Developed countermeasures to design and manufacturing issues during both product development and production stages
- Reviewed 2D and 3D models in CATIA to identify any potential design weaknesses

WOLF APPLIANCE CO., LLC*Reliability Engineering Co-op**Wolf Appliance is a manufacturer of high-end residential kitchen appliances*

Fitchburg, WI

05/2005-12/2006

- Designed, built, and operated test fixtures to simulate life cycle testing of new components
- Used Labview, and Fieldpoint data acquisition systems to track life cycle tests
- Programmed PLCs (Programmable Logic Controllers) using RSLogix ladder software
- Created a database using MS Access to organize and report on all returns from the field

ERIK'S BIKE SHOP*Head Bicycle Mechanic**Erik's is a small chain bike shop providing customers with consistent and knowledgeable bicycle service*

Madison, WI

03/2003-05/2005

- Employed problem-solving skills to complete difficult bicycle repairs
- Trained new employees on the duties of a bicycle mechanic

EDUCATION**UNIVERSITY OF WISCONSIN – MADISON**

B.S. Mechanical Engineering

Madison, WI

01/2002 – 12/2006

- Major GPA 3.6/4.0, Dean's Honor List 2003 through 2006

Selected Course Work

- Mechanics of Materials, Electronic Circuits and Power Conversion

Senior Design Project (Professor Jay Martin)

- Active integrated Restraint System for powered wheelchairs