

# BERT USCHOLD

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## EXPERIENCED PRODUCT DEVELOPMENT PROFESSIONAL

Forward thinking principal level engineer with 30+ years of experience turning customer and internal ideas into successful products. Passionate about developing products that consider and efficiently meet all stakeholders' needs. Adept at receiving input from multiple sources to develop optimal solutions. Always seeking new ideas and skills from which to draw future inspiration. Seeking challenging product development programs in concept stage or beyond. Experienced working in ISO 9001/13485 approved quality system. Awarded 30+ patents for medical devices.

### SKILLS AND EXPERTISE

Project Management	Full Cycle Development Process	SolidWorks
Project Definition	Medical Product Design	Moldflow
ISO9001/13485	End-user Interaction	GDT/Tolerance Analysis
Technical Writing	Design for Assembly	Test and Inspection Fixtures
Plastic Part Design	Design for Manufacturability	uFMEA, dFMEA, pFMEA

### PROFESSIONAL EXPERIENCE

#### **Dexterity Engineering, LLC**

February 2022 to present

##### *Principal*

- Providing experienced product development services for medical devices, consumer products, and injection molded components.

#### **Avery Dennison Corporation**

November 2017 to February 2022

##### *Senior Project Design Engineer*

- Responsible for developing new version of the Buttoneer® from blank sheet through verification.
- Responsible for getting pneumatic fine fastener tool to meet quality requirements.
- Support sales, manufacturing, and quality to support prospective and existing customers.

#### **Radius Product Development**

March 2016 to November 2017

##### *Principal Engineer*

- Developed multiple dose packaging for national pharmacy.
- Presented in house seminar on Design for Manufacturability and Assembly.
- Contributing engineer on teams developing:
  - Surgical trocar seal
  - Virtual reality headset and accompanying handheld toy lightsaber
  - Packaging and printing process for customized baby product packaging.

#### **Red Panda Products, Inc dba Dexterity Engineering Solutions**

February 2009 to March 2016

##### *Principal and Founder*

- Providing experienced product development services for medical devices, consumer products, and injection molded components.
- Modified the counting mechanism of a breath actuated inhaler to work in a metered dose

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inhaler.

- Conceived and developed a new universal seal for a laparoscopic trocar. The new solution found open space in a crowded IP landscape and used a minimum of parts.
- Analyzed and refined a proportional fill “measure while you pour” liquid doser. Responsible for several breakthroughs that improved accuracy and user experience.
- Developed electronic, reusable portion of insulin pump for patients with type 2 diabetes.
- Conceived and developed a novel concept to reduce tolerance stack up in insulin injection device.
- Helped develop an endoscopic stone retriever.
- Investigated and tested alternate delivery means for e-cigarette.
- Developer of Powerstaxx™ tolerance analysis software, an Excel based tool that associatively manages all of the stackups and dimensions for an assembly in a single spreadsheet.
- Authored *Applying Critical Dimensions to Medical Device Design and Development* (mddionline.com, Nov 2014) and gave several talks on the subject.

### **Radius Product Development**

November 2000 to February 2009

*Senior Engineer*

- Team leader and/or engineering lead on numerous medical and consumer products.
  - Cell phone housing, insulin pens, lancing device, beverage dispensers, tissue sample collector
- Took the design of an inhaler engine from SLA model to clinical ready component in 6 weeks. This successful \$85,000 program resulted in over \$2,000,000 in additional business.
- Re-designed a lancing device prototype into an easy to manufacture product with volumes in the millions. A key aspect of performance far exceeded customer requirements.
- Led engineering team to re-design a dry powder inhaler. Improved performance. Made easier to use. Created easy transition to automated assembly.
- Re-designed a disposable injection pen to deliver a different dose volume with minimal part and tool changes.
- Demonstrated success working with multi-functional groups to assess product concepts and provide for customers' needs.
- Created a tolerance analysis spreadsheet that simplifies evaluation of design changes and provides estimated reliability of design.

### **Becton Dickinson**

January 1997 to November 2000

*Senior Engineer, Product Development*

- Lead engineer for design of insulin delivery pens with LCD and memory.
- Responsible for developing final assembly concepts, scheduling, and project budgets.
- Worked closely with electrical engineers to develop interface and housing for a class 2 medical device with PC board, including custom electrical switches.
- Assisted marketing and industrial design in clarifying product features.

### **Christian Appalachian Project**

1994 to 1996

*Volunteer Teacher*

- Developed and implemented leadership program for youth and adults in rural Kentucky.
- Coordinated a team's efforts to initiate a Leadership Camp for teenagers.

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- Taught GED and literacy to adults, helping more than 10 adults earn their GED.

### **Ethicon Endo-Surgery**

1990 to 1994

*Engineer, New Product Feasibility and Development*

- Led engineering development on a program that took a doctor's concept of a catheter introducer to a finished product.
- Co-conceived Flexipath® Thoracic Trocar many months before surgeons recognized the need for it. This product is still in use today.
- Created the name for two products, Flexipath® Thoracic Trocar and Optiview® Non-Bladed Trocar. Both are still in use today.
- Interacted with surgeons to understand and provide for their needs in the rapidly developing field of laparoscopic surgery.
- Conceived, evaluated, and developed concepts for disposable surgical products, resulting in six patents and three new products.
- Assisted veterinary surgeons to develop and execute test protocols for prototype devices.

### **Procter & Gamble Company**

1986 to 1990

*Design Engineer, Co-op Engineer*

- Managed the design, installation, and maintenance of three pilot plants in cooperation with client engineers, technicians, and mechanics.
- Trained and certified as P&G Process Safety Engineer

## **EDUCATION AND PROFESSIONAL DEVELOPMENT**

Bachelor of Mechanical Engineering, Summa Cum Laude, University of Detroit

Member Tau Beta Pi Engineering Honor Society

Member Pi Tau Sigma Mechanical Engineering Honor Society

Introduction to Laparoscopic Cholecystectomy, Auburn University

Plastic Product Development and Design Course, University of Wisconsin at Milwaukee

Solving the Snap Fit Design Puzzle, SAE

Worcester Polytechnic Institute, *Project Management Workshop*

*REFERENCES FURNISHED UPON REQUEST.*