Jake Buske

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Career Overview

Engineer with over three years of professional experience working with high precision, multimillion-dollar components and equipment. Designed, modeled, developed, and tested equipment and processes to increase efficiency and quality.

Core competencies include communication, critical thinking, design, problem-solving, product development, programming (C++, CSS, G-code, HTML, JavaScript, MATLAB, Python, SQL), solid modeling (Inventor Pro, Solidworks), and technical writing.

Career Highlights

Model Engine Project – Designed, modeled, and 3D printed a scale reciprocating engine using Solidworks and Ultimaker Cura. Formulated, developed, and tested C++ code to simulate ignition and fuel injection timing using LEDs, hall effect sensors, and an Arduino Nano microcontroller.

Check Valve Design – Referenced an existing design to create a split-bodied poppet-style check valve using Solidworks. Used regulating documents and engineering experience to ensure design was sufficient to withstand operating conditions. Controlled clearances and tolerances to ensure design would function correctly and could be easily manufactured.

Web Development – Used HTML, CSS, and JavaScript to create a personal website from scratch. Website features include an image thumbnail gallery, multiple tabs, and a responsive layout.

Induction Heating Research & Development – Lead research and development of induction heating techniques for removing stuck fasteners aboard Nimitz-class Nuclear Reactors. Conducted tests using a pyrometer and thermal imaging camera to document component temperature response. Used data to recommend methods and use case, reducing contingency time and cost.

Professional Experience

Flowserve Raleigh, NC January 2021 – Present

Manufactures fluid motion and control products for various industries including chemical, nuclear, and oil & gas.

Design Engineer

Newport News Shipbuilding Newport News, VA June 2017 – January 2021

Manufactures and services the Nuclear Aircraft Carriers and Submarines that serve the United States Navy.

Engineer II

Education

North Carolina State University, Raleigh NC, 2017

B.S., Mechanical Engineering