Aroosa Wadud

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Education

University of Alabama at Birmingham Birmingham, AL
Bachelor of Science in Mechanical Engineering *May 2022*

Experience

Mechanical Design Project Team Lead Aug 2021 – May 2022
Honda *Lincoln, AL*

- Directed a team project at Honda to improve and automate assembly line, increased production speeds by 12% and reduced injury by 80%.
- Developed a prototype model with engineering drawings and documents that included the process of the product, bill of materials (BOM), OSHA standards, and data sheets.
- Communicated directly with professionals to estimate deadlines and provided timely updates on project reports progress.

Chemical/Process Engineer Intern Sep 2021 – Jan 2022
Khepra at Southern Research *Birmingham, AL*

- Set up, calibrated, and maintained laboratory equipment/apparatus, including centrifuges, homogenizers, pH meters, filtration membranes, and spectrophotometers.
- Designed and carried out various experimental trials focusing on delignification of woodchips, breakdowns of biological and plastic polymers using ultrasound, and colorimetry.
- Assessed and evaluated delignification processes, took measurements of specific variable metrics to interpret data and made assumptions about process efficiency and effectivity.

Projects

Material Processing Aug 2021 – Dec 2021

- Designed simulations of forging using ANSYS to understand the principle of bulk deformation process and the effect of the contact condition on the final shape of the work piece.
- Participated in sand forging, thermoforming, and composites processing labs.

Ladder Logic Programming Jan 2021 – May 2021

- Compiled an essential ladder logic program to drive a programmable logic controller.
- Implemented an interactive human machine interface in MatLab/Simulink.
- Created multitudes of unique circuit diagrams that coordinated switch and lamp interactions.

Robotic Arm Programming Jan 2021 – May 2021

- Created a MatLab code that enabled a robotic arm to pick up small-scaled objects and placed into the 3D printed hinge box.
- Drafted models and designs in SolidWorks according to product goals and intended functions.

Automotive Protective Design Jan 2021 – May 2021

- Designed foolproof bolts for guardrails, meant to keep drivers safe on the road and reduced fatal impact rate by 12%.
- Critically analyzed various situations and perfected the most efficient bolt to place within rails.
- Proposed a self-restoring crash cushion prototype, composed of HDPE plastic.

Product Dissection Jan 2019 – May 2019

- Deconstructed a hairdryer and examined the safety functions of the bimetallic strip and thermal fuse.
- Analyzed the nichrome wire wrapped around insulting mica boards and the efficiency of nichrome wire compared to other metals.

Skills

SolidWorks, AutoCAD, ANSYS, MatLab, Autodesk Inventor, 3D Printing, Project Management