SADEEP ARIYARATHNA

Mechatronics Engineer | Mechanical Design Engineer | Systems Engineer
+49 1521 3746490 | sadeepari@gmail.com | www.linkedin.com/in/sadeep-a-175984114/

PROFFESIONAL SUMMERY

Highly motivated Mechatronics Engineer with a passion for optimizing product development processes. Proven track record of reducing development time and improving manufacturability through innovative design and technical skills. Successfully streamlined product development cycle using efficient design with Fusion 360. Eager to leverage expertise in systems engineering and machine learning to contribute and drive similar improvements.

SKILLS

- Python
- TensorFlow
- Dynamic Programing
- Soldering
- C++
- SolidWorks
- 3D Printing
- Machining
- Arduino
- Fusion 360
- DFM/DFA
- MS Office
- Pytorch
- MATLAB
- Project Management

WORK EXPERIENCE

Junior Mechatronics Engineer
AtlasLabs (Pvt.) Ltd, Sri Lanka
September 2022 – February 2023

- Engineered and tested mechanical components and systems from concept to launch with Fusion 360, reducing product development cycle time by 20%.
- Created manufacturable designs using Fusion 360 and validated them for Design for Manufacturing and Design for Assembly techniques.
- Reduced troubleshooting time by 35% by creating bill of materials and validation documents for inspections.
- Developed a modern design for a PCB that reduced the number of components by 25% and increased the reliability of the product using AutoCAD Eagle.

In-plant Trainee – Automation
MAS Intimates (Pvt.) Ltd., Sri Lanka
July 2021 – February 2022

- Created SolidWorks designs using Design for Manufacturing and Design for Assembly techniques.
- Designed PCBs using AutoCAD Eagle and Proteus.
- Designed and developed an attachment for sewing machines that reduced the time taken to cut the finished piece by 65%.
- Developed control systems for three ongoing projects to evaluate each conceptual method, using microcontrollers (Arduino, ATTiny84)

EDUCATION

MSc. in Systems Engineering and Engineering Management
South Westphalia University of Applied Sciences, Soest, Germany
April 2023 – Present

- Developed a custom grid environment and analyzing performance or Q-learning, Deep Q-learning and A2C algorithms using Pytorch, OpenAI Gym and StableBasline3.
- Developed a control system to reduce sway of an overhead crane in a non-linear environment using MATLAB Simulink with model predictive controller.

- Implemented a Python-based visualization environment in conjunction with Raspberry Pi to analyze real-time data streams from environmental sensors. Utilized the seamless transmission of data to a cloud server for analyze, storage and retrieval, enabling dynamic visualization of critical environmental metrics.

BSc. (Hons.) in Mechatronics Engineering
General Sir John Kotelawala Defense University, Sri Lanka
February 2018 – December 2021

- Engineered a C++-based control system for precise control of an elbow joint using a brushless DC motor within a prosthetic arm. Designed and optimized the intricate gear system for the joint utilizing SolidWorks, ensuring seamless integration and functionality.
- Spearheaded the development of a comprehensive greenhouse monitoring system leveraging C++ programming. Engineered the system to monitor key environmental parameters such as temperature, humidity, and intruder detection, with all hardware components meticulously designed through SolidWorks. Integrated advanced Wi-Fi capabilities enabling remote monitoring and real-time data analysis.