SAHIL SANIL

Mechatronics Engineer

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OBJECTIVE

Greetings! I am a tested professional, seeking to innovate in various technical avenues with a creative approach and an open mindset. I've gained extensive knowledge in R&D and product development, in-addition to possessing 3+ years of experience in rapid prototyping, project management, mechanical design and testing, specializing in robotics.

EDUCATION

CGPA: **8.22** (with Distinction)

Mechatronics Engineering (B.Tech)

SRM Inst. of Science & Technology

2018 - 2022

Chennai, India

CERTS & COURSES

Solidworks Associate Level Cert.

Supervised Machine Learning: Regression and Classification - *Stanford Online*

Private Equity and Venture Capital - *Università Bocconi*

Python Applications on AWS - *Amazon*

Wheeled Robotics - *IIT Madras*

Robotics - *IIT Kharagpur*

SKILLS

- 4+ years in CAD Modeling, i.e. Solidworks, CATIA, AutoCAD, CREO, UG-NX and Fusion 360.
- 3+ years in Rapid Prototyping & Product Development.
- 4+ Years in Python, C++, C# and Java programming.
- 2+ years in Environment Testing & Performance Testing.
- Additive Manufacturing (3D Printing via Ender platform).
- Develop Prediction Models using Logistic Regression.
- Expertise in ROS & Gazebo, with SLAM implementation.
- Proficient in SCRUM & Agile methodologies.

WORK EXPERIENCE

Mechanical Process Engineer

MIKO

11/2022 - current | Mumbai, India

Oversee and perform multiple tests to validate features, concepts, and component designs during the product development cycle, and advice on their application.

Also designed & built several prototypes and test rigs for performance testing purposes.

Developed modular processes to increase efficient reallocation of resources for parallel RnD activities and eliminate delays.

Head of Design and Fabrication

SRMTH

01/2019 - 07/2022 | Chennai, India

I managed associates under my domain and distributed tasks.

Spearheaded robotics research projects, authoring several research papers published in journals such as IEEE.

Won 1st Place in Smart India Hackathon 2020 (Hardware).

Intern

LIDO Learning

12/2019 - 01/2020 | Mumbai, India

Completed operational requirements by scheduling and assigning fellow employees.

Provided support to employees from various different domains.

KEY PROJECTS

➢ C.A.S.P.E.R.

Full-sized Humanoid Robot

02/2022 - 05/2022

- The project comprises an ultra-lightweight torso, coupled to an aluminum bipedal structure, propelled by a proprietary motor-planetary gearbox mechanism.
- The system also includes bio-mimetic hands for improved functional dexterity.
- Simulated the body in Gazebo to demonstrate the gait cycle mechanism.

➢ T.H.E.A.R.A.

Humanoid Assistant

04/2019 - 08/2019

- Project T.H.E.A.R.A. is a lab assistant humanoid built using recycled material.
- It has many innovative features apart from being interactive, such as Mirror & Shadow mode to replicate user's movement in real-time, using a series of vectors.

Note: This is achieved using a Machine Vision methodology called PSF (Pictorial Structure Framework) to recognise joints on every frame, and receive a 2D Human Pose Estimation of the robot by linking said joints with vectors.

PATENTS

➢ SNAP TAP!

Hand Dexterity Enhancer

07/2021 - 12/2021

- ‘Snap Tap!’ is a product designed to achieve overall improvement in dexterity & eye-hand coordination of the user.
- Taking the form of a glove and using tactile sensors, the product is designed to be incredibly accessible, uncomplicated and enjoyable to use.

➢ Self-Sanitizing Respiratory Apparatus

08/2020 - 04/2021

- The primary purpose of the system is to assist in containing the spread of the Covid-19 virus. It is also observed to be effective against other airborne viruses.

PUBLICATIONS

➢ Quadruped Robot

01/2021 - 03/2021

- Co-authored a research paper titled; "Locomotion and Path Planning for Roller-skating Dog Robot", and presented in the prestigious conference of INDIACOM 2021 & published on IEEE.
- https://ieeexplore.ieee.org/document/9441444

➢ Soft Robotics

10/2020 - 03/2021

- Co-authored a research paper titled; "Design, Fabrication & Control of 4-arm Soft Robot For On ground and Underwater Locomotion", and presented in the prestigious conference of INDIACOM 2021 & published on IEEE.
- https://ieeexplore.ieee.org/document/9441367