Chirag Makwana

Mechanical Engineer · Robotics Developer

Pune, Maharashtra, India

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"Make the change that you want to see in the world."

Experience

Futuring Design Pvt. Ltd.

Pune Maharashra

Culsultant - Mechatronics (Part Time)

Aug. 2019 - Present

- Responsible for development and research for proof of concept of new products.
- Working on Atmega328, Atmega2560, STM32, Bluetooth, ESP8266, MPU9250.

Futuring Design Pvt. Ltd.

Pune Maharashra

Graduate Engineer Trainee

Aug. 2018 - Aug. 2019

- Responsible for developing a proof of concept of new products.
- Developed POC for Sport and Medical Device.
- developed application for capturing data from IMU and load cell, Storing data on SD card and post processing data using python.

Projects

Quadruped robot leg inverse kinematics and gait planning

Robotics

Personal project

Aug. 2018 - Sept. 2018

- Platform used: ROS, V-REP
- Modeled on Solid Works.
- Simulated in V-REP
- Microcontroller used: Arduino nano 328p
- Kinematic Model of Gaits: Tripod gait.
- Leg DOF 3

Design, Development and Kinematic Modeling of 10 Joint Modular Snake

Robotics

Mini project

Aug. 2017 - Oct. 2017

- Platform used:ROS, V-REP
- Modeled on Fusion 360.
- Programmed in ROS-Kinetic
- Simulated in V-REP
- Kinematic Model of Gaits: Serpentine motion, Side Winding motion
- Project Link: https://github.com/chiragmakwana0296/Snake_Robot_ROS

Design, Analysis, Kinematic Modelling and Simulation of Six Axis Robotic Arm

Robotics

Major Project

Oct. 2017 - May. 2018

- Payload Capacity: 0.5 Kg.
- Platform used: ROS, V-REP.
- Modeled on Solidworks.
- Programmed in ROS-Kinetic.
- Simulated in V-REP
- Microcontroller: Arduino ATMEGA 2560.
- Project Link: https://github.com/chiragmakwana0296/six_axis_robot_ROS

Education

Maharashtra Institute of Technology

Pune, Maharashtra, India

M.Tech Mechatronics and Automation

2019-2021

- Pursuing

Marathwada Mitra Mandal's College of Engineering

Pune, Maharashtra, India

B.E. In Mechanical Engineering.

2015-2018

- 71 %

MIT Polytechnic *Pune, Maharashtra, India*

Diploma In Mechanical Engineering. *2012-2015*

- 81 %

Skills

Mechanical Design	
Kinematic Modelling	
ROS (Robot Operating System)	
V-REP (Virtual Robot Experimentation Platform)	
CAD Software	Catia, SolidWorks, NX Siemens, Fusion360
Programming Language	C, Embedded C, Python
Operating system	Linux, Windows
Microcontroller/Processors	AVR, Raspberry-Pi, Arduino
Languages	English, Hindi, Marathi, Gujarati

Achievements, Awards & Certification

2015	**1st Place**, Achieved First Rank in Softtech Robozest, International level Robotics Competition, Organized by IIT-Delhi	*IIT-Delhi, India*
2013	**3rd Place**, Secured 3nd Rank in Diploma 2nd Year	*MIT-SSPP, Pune*
2015	**Certification**, C Programming (Certification Maharashtra Infotech)	*Mumbai India*
2014	**Industrial Training**, BOSCH 3-Days Training on Latest Technology on advance Automotive Engineering.	*Pune India*
2017	**Workshop**, Attended Workshop Conducted by Sofcon India Pvt. Ltd. on the domain Industrial Automation	*MMCOE Pune*

Extracurricular Activity

Robocon team 2015-16) *MMCOE, Pune.*

Robot Architecture team lead *2015-2016*

- Represented MMCOE Collage in national level robotic event Robocon 2016(Clean Energy Recharging the World)
- Responsible for Design, Kinematic modelling, simulation and overall development of architecture of Hybrid Robot.

National level e-Yantra Robotics Competition *IIT- Bombay*

Participant *2016-2017*

- Represented MMCOE Collage in National Level robotics event e-Yantra conducted by IIT-Bombay. My team had worked on theme Bothoven, in which we used Research platform Firebird-V robot based on Atmega 2560.

International level Robozest Robotics Competition – IIT-Delhi *IIT Delhi*

Winner 1st Position *2015*

- Represented MIT-SSPP Collage in International level robotics competition conducted by Robo Zest, SportTech and IIT-Delhi and Achieved 1st Rank in Competition.

Interest

- Programming
- Developing Robots
- Playing Carrom
- Sketching

Declaration

- I hereby declare that the above information provided is true to best of my Knowledge and belief.