Siddhant Saoji

sziddhant.github.io
saoji.1@iitj.ac.in | (+91)9673262082

EDUCATION

IIT JODHPUR
Pre-Final year BTech in Mechanical Engineering
Expected Dec 2021
GPA: 8.76/10 (Dept. rank 2)
(upto 5th semester)

DEOGIRI JUNIOR COLLEGE
Higher Secondary (HSC)
2017| Aurangabad, MH
Percentage: 87.04%

STEPPING STONES HIGH SCHOOL
Secondary (CBSE)
2015| Aurangabad, MH
CGPA: 10/10

LINKS

Github:// **sziddhant**
LinkedIn:// **siddhant-saoji**

UNDERGRADUATE

Kinematics of Machines and Mechanisms
Dynamics of Machines and Mechanisms
Design of Machine Elements*
Linear Algebra and Calculus
Computer Programming
Nanosensors*
Engineering Mechanics
Mechatronics
Mechanics of Solids

AUDIT

Introduction to Robotics
Introduction to Image Processing
Machine Learning
Reinforcement Learning
Computer Vision Basics*
*ongoing courses

SKILLS

PROGRAMMING

Languages:
•C/C++ • Python

SOFTWARES

• Matlab • Adams
• Cinderella • Gazebo

OTHER TECHNOLOGIES

• Arduino • NodeMCU
• Raspberry Pi • Beaglebone
• ROS

PROJECTS AND EXPERIENCES

QRRT:QUALITY BIASED INCREMENTAL RRT FOR OPTIMAL MOTION PLANNING |Summer 2019

Guide: Dr Suril V Shah | IIT Jodhpur

- Biasing the nodes of Rapidly Exploring Tree for better and faster solution trajectories using **Deep Reinforcement Learning**.
- Introduced goal bias as a hyper parameter for better results.
- Implementing the qRRT algorithm on **Pioneer 3-DX** mobile robot

VISION BASED MANIPULATION AND GRASPING USING 7-DOF ROBOTIC ARM* |RESPOND Project Sponsored by ISRO

Guide: Dr Suril V Shah | IIT Jodhpur

- Simulated the Reachy 7 DoF Robotic Arm in Gazebo .
- Writing drivers for velocity control of Dynamixel motors using ROS
- Implementing Visual Servoing on the Reachy Robotic Arm using an RGB-D Camera

ERGONOMICS OF ON-SCREEN KEYBOARD | B.Tech Project

Guide: Dr B.Ravindra | IIT Jodhpur

- Analyzed the centroid computed using various **image processing** algorithms.
- Studied the effect of pressure and different finger on the centroid.
- Applying the concept for suggesting improvements for better ergonomics.

NETRA | IMU based indoor navigation

Mentor: Dr B.Ravindra |Texas Instruments IICDC 2018

- Applied dead reckoning for indoor navigation without expensive infrastructure.
- Implemeted on **Beaglebone black** and 9 axis IMU for the computation.
- Audio and haptic feedback for navigation especially for the visually impaired

VOTING VADER | Blockchain | IoT | Microsoft Code.fun.do++ '19

Open Sourced Github | Submission video YouTube

- An **IoT based EVM** built on **Raspberry Pi** using **Azure Blockchain** Service as the backend serving through REST APIs and hardware authentication using RFID

BO | Chat Bot |Microsoft Code.Fun.Do++ 18

Open Sourced Github | Submission video YouTube

- Built a multi-functional chat bot deployed on **Facebook Messenger**, which can be used by affected people as well as rescue teams in case of a disaster.
- Technologies: - **Microsoft Azure, Python, LUIS, Flask, MySQL**

HONORS AND ACHIEVEMENTS

- **Semi-finalist** in **DST** and **Texas Instruments** India Innovation Challenge Design Contest 2018 and 2019
- 1ST Runner Up in **Microsoft** codefundo++ 2019 at IIT Jodhpur.
- Placed among the top **0.5% of 1.4 million** applicants in JEE Advanced 2017.

VOLUNTEER AND LEADERSHIP EXPERIENCE

• **Aeromodelling Club** |Captain • **Quiz Club** |Vice-Captain
• **Robotics Club** |Core Member • **IGNUS Inter college Fest** |Assistant Head,Services

EXTRACURRICULAR

- Represented institute Quiz club in 4th Inter-IIT
- Represented college basketball team in Sangram 2018 at IIT Roorkee.
- Participated in Tech-Fest organized by IIT Bombay. Cultural Meet.