Siddhant Saoji

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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**

SKILLS

PROGRAMMING
Languages:
•C/C++ • Python

SOFTWARES
• Matlab • Adams
• Cinderella • Gazebo

OTHER TECHNOLOGIES
• Arduino • NodeMCU
• Raspberry Pi • Beaglebone
• ROS

COURSEWORK

CREDIT
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

PROJECTS AND EXPERIENCES

VISION BASED MANIPULATION AND GRASPING USING 7-DOF DUAL ROBOTIC ARM* |RESPOND Project Sponsored by Indian Space Research Organisation (ISRO)
Advisor: Dr Suril V Shah |November 2019- Present
- Gazebo and V-rep simulation and built space robot, a 6DoF Dual-arm robot.
- Made drivers for velocity control of Dynamixel motors using python in ROS
- Implemented Visual Servoing on the space robot Arm using an RGB-D Camera

QRRT:QUALITY BIASED INCREMENTAL RRT FOR OPTIMAL MOTION PLANNING |Summer Internship
Advisor: Dr Suril V Shah | IIT Jodhpur| May 2019- September 2019
- Aim to bias the nodes of Rapidly Exploring Tree for better and faster solution trajectories using **Deep Reinforcement Learning**.
- Introduced goal bias as a hyperparameter for better results and Implemented the qRRT algorithm on **Pioneer 3-DX** mobile robot.
- The algorithm generated smoother solution trajectories with static obstacles

NETRA | IMU based indoor navigation
Mentor: Dr B.Ravindra |Texas Instruments IICDC 2018| July 2018 -June 2019
- Used dead reckoning for indoor navigation without expensive infrastructure.
- Implemented on **Beaglebone black** with a 9 axis IMU using dead reckoning.
- Audio and haptic feedback for navigation especially for the visually impaired

ERGONOMICS OF ON-SCREEN KEYBOARD | B.Tech Project
Advisor: Dr B.Ravindra | IIT Jodhpur| January 2019 - May 2019
- Analyzed the centroid computed using various **image processing** algorithms.
- Analyzed the effect of pressure and different finger on the ergonomics.
- Applied the concept for suggesting improvements for better ergonomics.

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 **Department of Science and Technology** (Govt of India) and **Texas Instruments**, India Innovation Challenge Design Contest 2018 and 2019
- 1ST Runner Up in **Microsoft** codefundo++ 2019 at IIT Jodhpur.

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 Cultural Meet.
- Represented college basketball team in Sangram 2018 at IIT Roorkee.
- Participated in Tech-Fest organized by IIT Bombay.