MOHIT VIKAS JAVALE

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EDUCATION

B.E. Mechanical
(May 2021-Present)
- BITS Pilani, Pilani Campus
- Current CGPA – 9.31 (Top 3 in Dept.)

SKILLS

- Python
- C++
- MATLAB
- ROS 1 *(Gazebo, Rviz)*
- RL *(OpenAI Gym, StableBaselines3)*
- Deep Learning *(PyTorch)*
- Microcontroller Interfacing *(Arduino, NodeMCU, Raspi, Nvidia Jetson)*
- Fusion360 *(CAD, Sim, GD)*
- Ansys
- 3D-Printing *(Ender3 - PLA)*

EXTRACURICULLARS

- Table Tennis *(BITS Pilani Official College Team)*
- Speed Cubing
- Abacus *(Grandmaster Level Completed)*

ACHEIVEMENTS

- Eligible for OPJEMS Scholarship in 1st as well as 2nd year. *(Offered to top 3 students of department)*
- Qualified for Round 2 of Flipkart GRID: Robotics Challenge 3.0 *(Top 50 teams over India)*
- 1st Place in APOGEE 2022 Prototype Presentation Competition.

EXPERIENCE / PROJECTS

Quadruped Lead, Team Robocon
(May 2021-Present)

- Leading development of an autonomous quadruped
- Adapted an un-even terrain walking gait using RL
- Currently, shifting focus to 3D printing and electrical interfacing for creating a robust prototype

Mobility Lead, Team CRISS
(July 2021-Present)

- Focussing on mechanical subsection and integration testing of mars rover for the URC/IRC Competition
- Exploring modelling of kinematics and dynamics of mobility elements.
- Designed and manufactured rover suspension, differential system, wheels and chassis of the rover

Swarm Robotics Path Planning Research Project
(July 2022-Present)

- Literature survey of all current modern path-planning algorithms and their variants
- Developed own 2D python simulator capable of handling multiple bots with discretized time. Shifting to Gazebo.
- Researching for a novel swarm path-planning algorithm including energy management and recharging

Research Internship, IGCAR (Indira Gandhi Centre for Atomic Research)
(June 2022-August 2022)

- Assisted invigilator in performing numerical simulation of heat transfer and fluid flow mechanism via natural-convection in a thermo-siphon dissolver
- Used openFoam (C++ based library) to numerically formulate geometry of equipment, and also coded in the initial conditions and settings for the solver, thereby obtaining the temperature and velocity gradient occurring inside the apparatus, which is used to improve the deign of the equipment.