Kalpak Gajanan Korde *Mechanical Engineering*

kalpakkorde38@gmail.com

Amravati, India

linkedin.com/in/kalpak-korde-728593213

04/11/2002

Profile

Mechanical Engineer. Skilled in CAD and Robotics.
Interested in working towards innovation and sustainability.
Proven ability to lead projects to completion under resource constraints

Education

2022 – 2025
Amravati, India

B.tech, Mechanical Engineer
Government college of engineering, Amravati
Degree in mechanical engineering

Skills

- Fusion
- Solidworks
- Robotics and Mechatronics
- 3D Printing and Additive Manufacturing
- Product design
- project manegment
- Self learner
- Leadership
- Ability to work in team enviorment
- Interpersonal skills

Certificates

Robocon

Fellowship

Dipex

I2I

Patent
AUTOMATED GUIDED AGRICULTURE
VEHICLE FOR FERTILIZATION APPLICATION

Projects

ABU Robocon 2023
designed and manufactured both the robots for ABU Robocon 2023

- Led a multi-disciplinary team to design and fabricate two specialised omnidirectional robots for ABU Robocon 2023, resulting in **s**uccessful qualification for the initial competitive stage.
- Architected a dual-robot strategy featuring a belt-driven Mecanum wheel system (Rabbit) and an Omniwheel system (Elephant) to optimise speed and precision for respective challenge tasks.
- Personally designed and integrated a complex ring-handling mechanism, enabling robots to reliably acquire and shoot a full stack of 10 rings toward the scoring pole, meeting strict qualification criteria.

AGV for fertilization of crop in field

- Designed and developed a working prototype of an AGV for precise crop fertilization using simple coding techniques and readily available materials.
- Integrated a plant-detection system to identify nearby crops and dispense the appropriate amount of fertilizer.
- Emphasized a minimalist design, leveraging mechanical systems for motion with minimal reliance on electronic components, ensuring cost-effectiveness and simplicity.
- Demonstrated practical automation in agriculture, showcasing innovation and efficiency in resource utilization.

Solar Panel Cleaning Robot: Prototype & CAD Design

Developed the complete CAD design and initial prototype concept for a budget-friendly, automated solar panel cleaning robot.

- Engineered a prototype featuring a four-wheel drive, dual brushes, and Position encoders to ensure complete panel coverage and automated navigation along borders and edges.
- Designed the system for automation, incorporating features like a self-charging solar panel on the unit, a compact and lightweight design, and the capability to use less water to no water for eco-friendly cleaning.
- Included a novel resting station design where the robot can wait between cycles. This station also features a stationary brush to clean the solar panel located on top of the robot itself.