Manu Jain

Certified Solidworks Associate with 3+ years of experience working on designing robots for projects and international competitions. Experience with multiple CAD software and a fascination for Computer Vision and Machine Learning

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EDUCATION

Mechatronics Engineering, Manipal Institute of Technology
CGPA: 8.0

EXPERIENCE

ideaForge (June- July) **(Reference: Santosh More, Sr. Project Manager, santosh.more@ideaforge.co.in)**
India's largest manufacturer of defense and industrial drones approved by the Ministry of Defense (MoD)
Research and Development Intern:

- Analyzed currently used mechanisms to come with more effective, accessible, and durable alternatives.
- Optimized mechanisms and to reduce space taken by 40% and make them more reliable
- Collaborated with marketing team to enhance user experience and website performance.
- Outsourced parts from international suppliers to make prototypes.

Team RoboManipal (2019-Current)
Team RoboManipal is the official robotics team of MIT, Manipal
Mechanical Subsystem Head:

- Developed designs, prototypes, and tested mechanisms for Asia-Pacific ABU Robocon competition.
- Organized free online workshops for students on OpenCV with 200+ applicants.
- Collaborated with companies to organize premium workshops on AI and ML with 200+ applicants.

SKILLS & CERTIFICATIONS

- **Skills:** Autodesk Fusion360, Solidworks, Arduino, Python, C++, Robot Operating System (ROS)
- **Certifications:** Python Data Structures, Simulation Analysis for Mechanical Engineers with Autodesk Fusion 360, Modern Robotics, Solidworks Certified Associate

PROJECTS

Robotic Arm

- Developed my own 3 degrees of freedom with 3D printed links and end effector on personal 3D printer.
- 2 NEMA 17 stepper motors and 2 servo motors were used to make 2 rotatory joints and 1 prismatic joint.
- Formulated and soldered my own circuit in Vero board using a buck converter and screw terminals.
- Programmed it in Arduino IDE and integrated it with ROS to perform autonomous pick and place operation.

6 Axis Robotic Arm

- Modelled my own 3D printable 6 DOF robotics arm from scratch.
- Designed, simulated, and tested custom cycloidal drive and planetary gearbox actuators for the robotic arm.
- Incorporated differential drives using bevel gears and timing belt transmissions to get optimal joint toques.

COMPETITIONS

- **GitHub Hackathon- Code Innovation Series - MIT Manipal:** Hackathon that was organized by MIT Manipal and GitHub where we presented our app 'Taka' for personal financing.
- **ABU Robocon (2020-22):** ABU Robocon is an Asia-Pacific competition for undergrad students where teams working on building autonomous/semi-autonomous robots that perform a set of tasks in a time limit.
- **Vikalpa:** CAD modelling competition by Klieba to bring innovation to kids' toys to help them understand concepts of physics with ease.
- **CAD Clash:** CAD competition organized by ASC College of Engineering where we were presented with challenging models to be made on the spot which was then followed by a deadline-based 3D modelling challenge.

POSITION OF RESPONSIBILITIES

Admin and Logistics Head of Editorial Board

- Editorial Board is the student body responsible for creating the official college yearbook.

Mechanical Head at Team Robomanipal

- Team RoboManipal is the official robotics team of MIT participating in national and international competitions.

ADDITIONAL INFORMATION

- **Achievements:** U19 Doubles Badminton Gold medal in Thane District
- **Hobbies:** Badminton, Singing, Playing Guitar, Teaching
- **Other Roles:** Treasurer on Interact Club. Interact Club is part of Rotary Club for Highschool students.