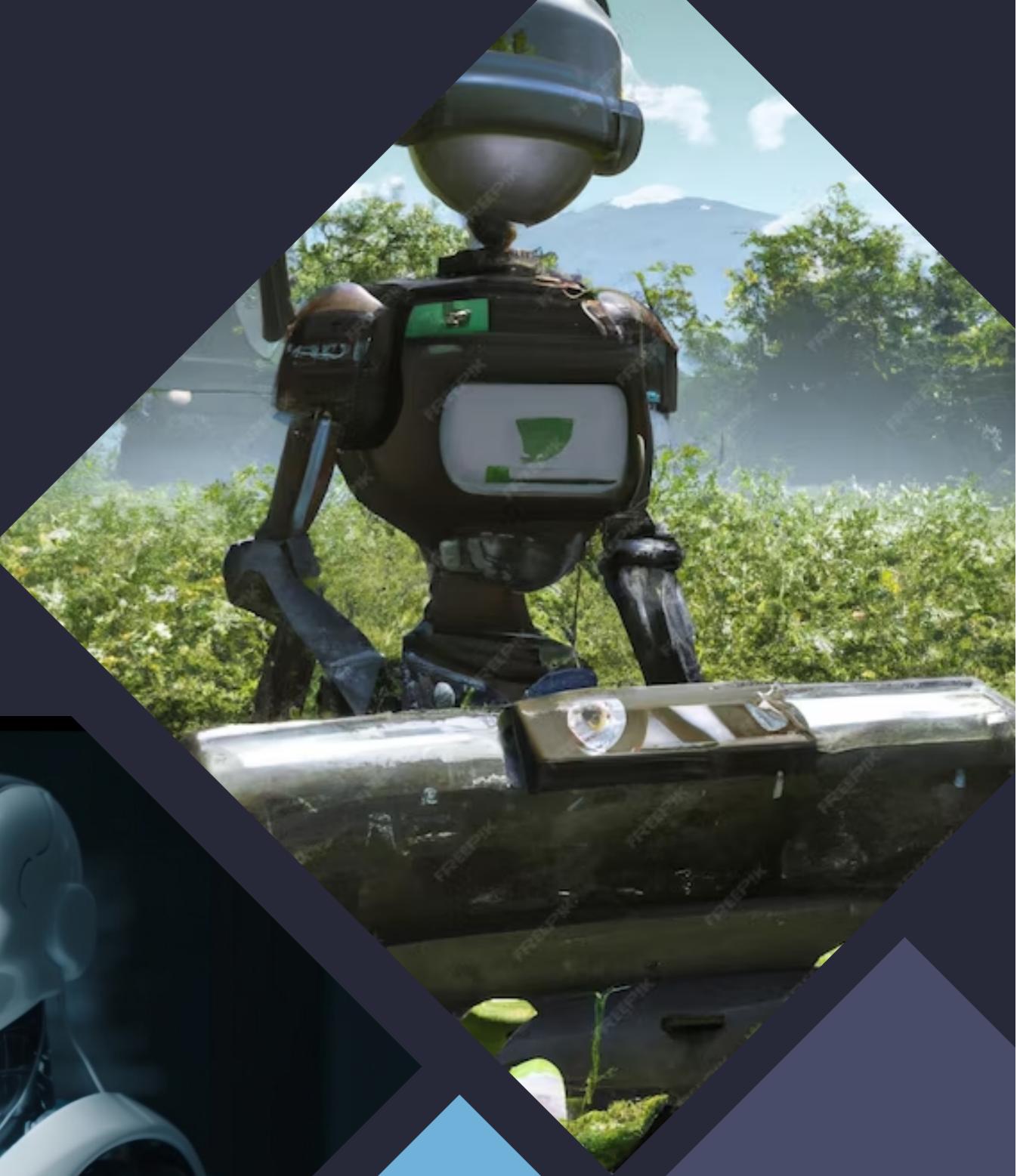


THE HUMANOID PROJECT

The Humanoid Project

Technical Orientation





What is our goal?



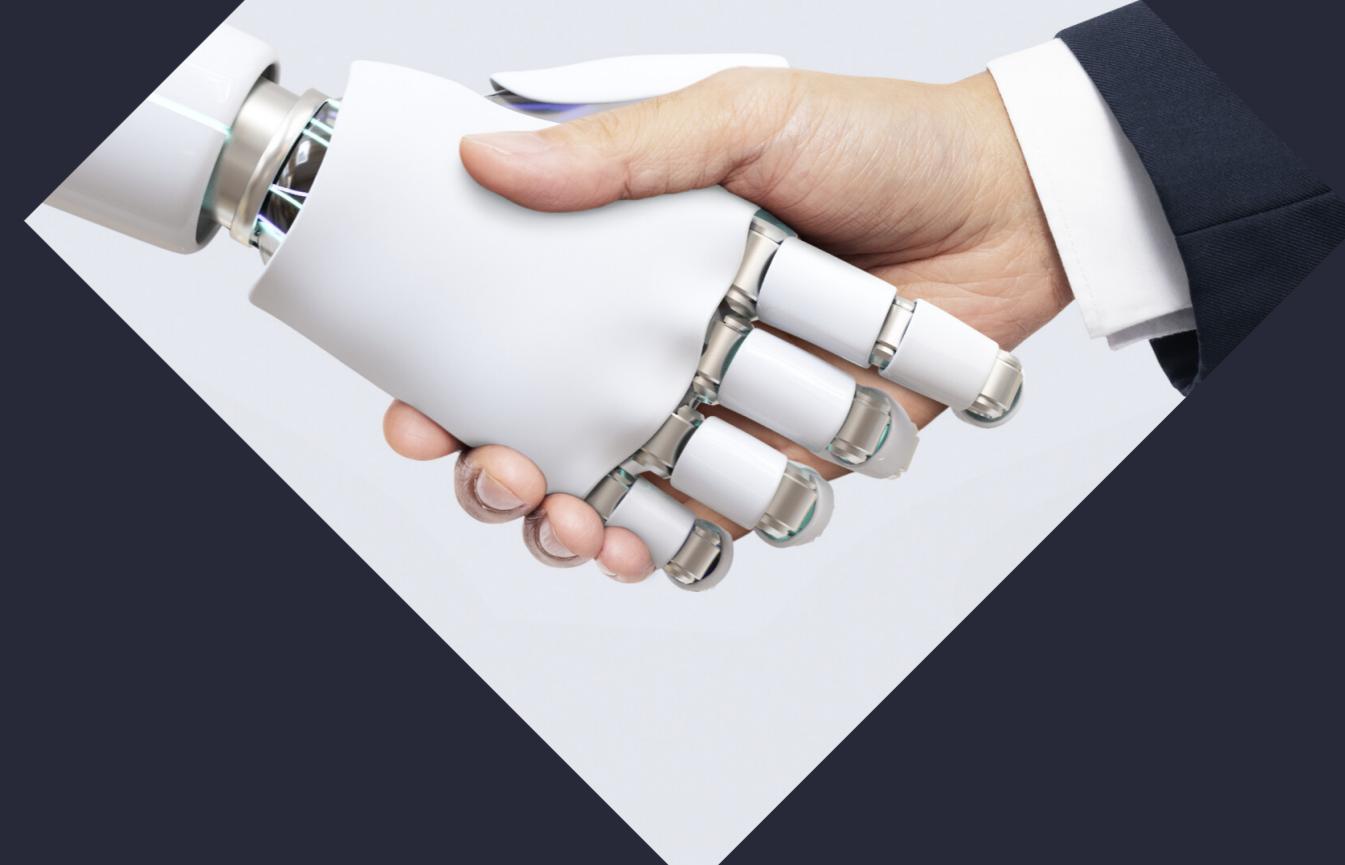
Envisioning humanoids walking the institute's lecture halls, library and beyond!



Forge an exemplary robotics team, fostering student-led research, paper publication and collaborative learning

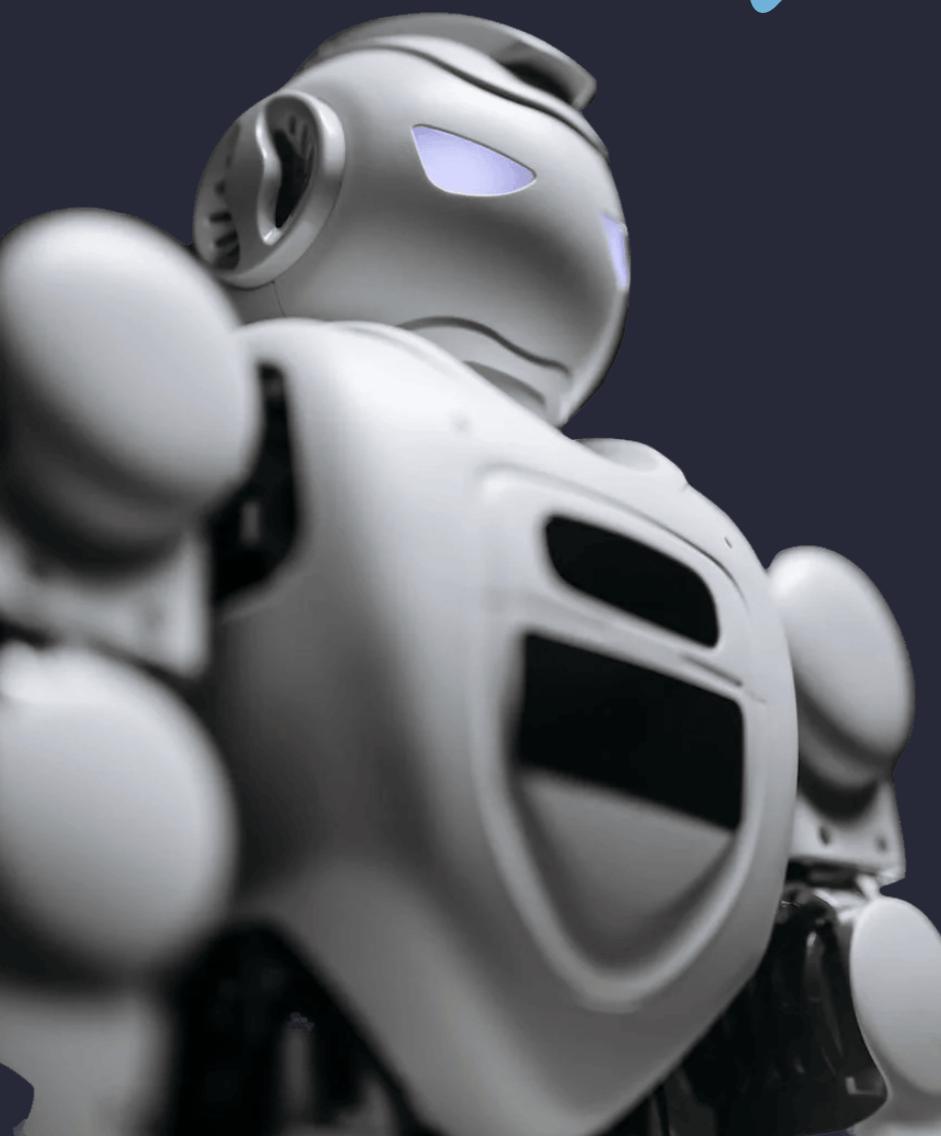


Participate in inter-collegiate robotics competitions and represent IIT Bombay





Lets Think Out Loud



Okay

What would we need to make this
possible ?



Can you keep
this book in
its shelf



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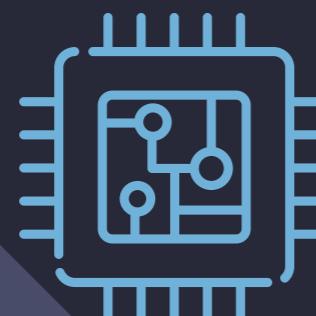
Our Subsystems



Artificial Intelligence



Controls



Electronics



Robot Design

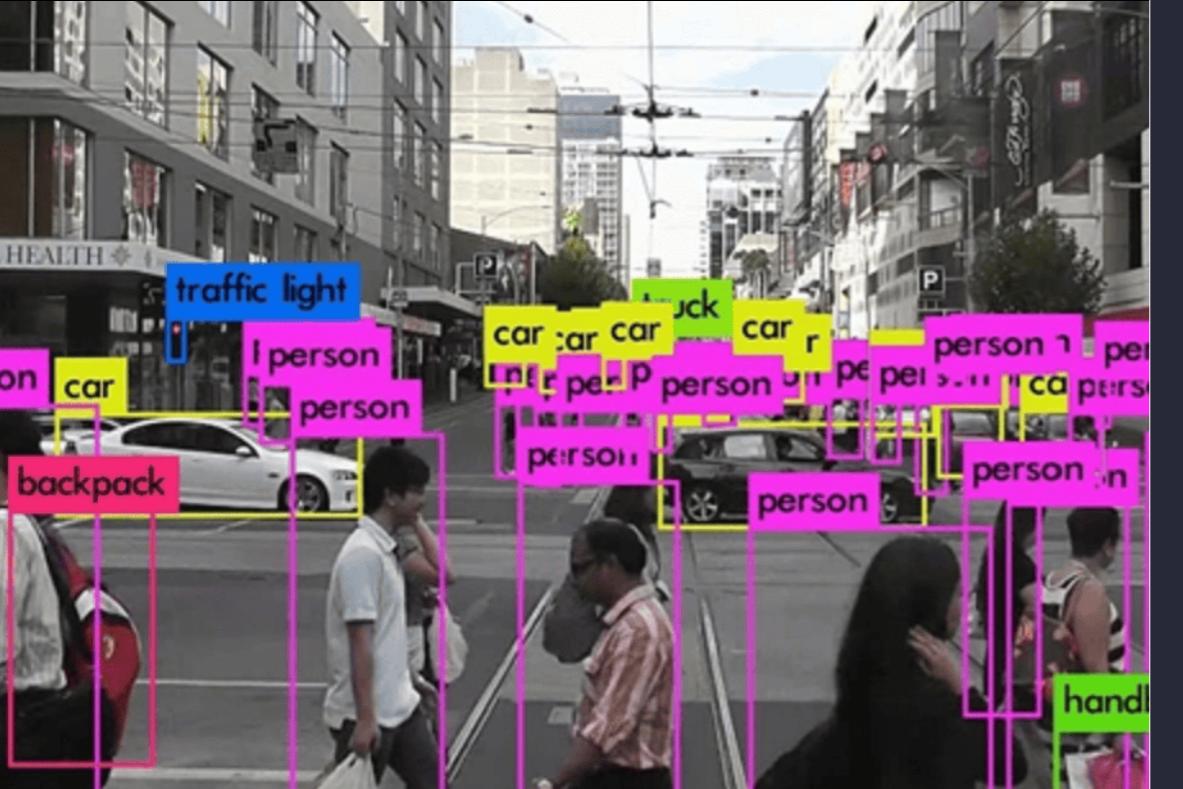


Business



Artificial Intelligence

- Use the power of Deep Learning and Neural Networks to be the brain of the humanoid
- Work on Natural Language Processing, Object Detection, Computer Vision, Speech Recognition, Software Development
- Get your hands dirty with AI Frameworks used by the Industry





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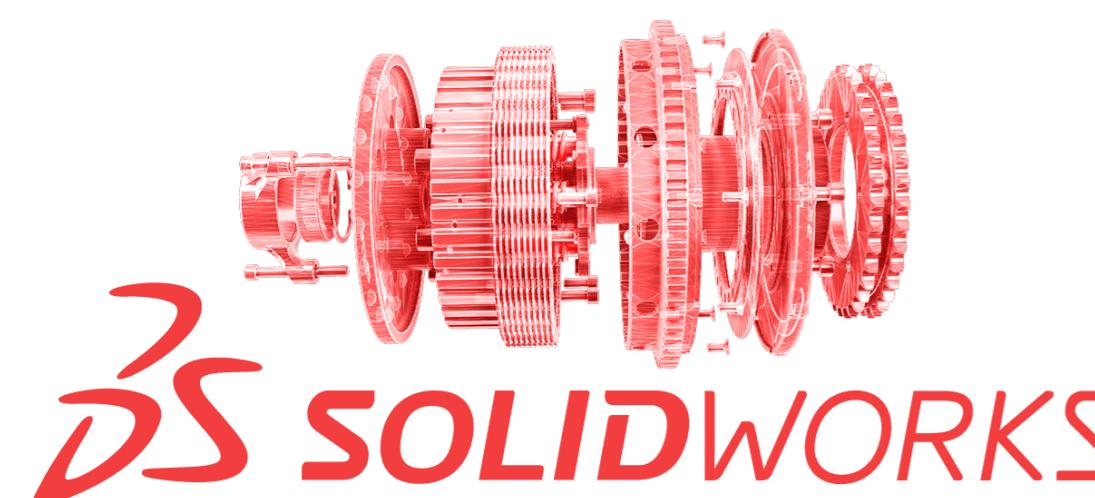
Controls

- Simulating the humanoid in a virtual world to test algorithms
- Using Robot Operating System, Gazebo
- Designing controllers for locomotion, picking up objects .etc
- Localization of the Humanoid, Map Building, Obstacle Avoidance
- Navigation and Path Planning

 ROS  GAZEBO

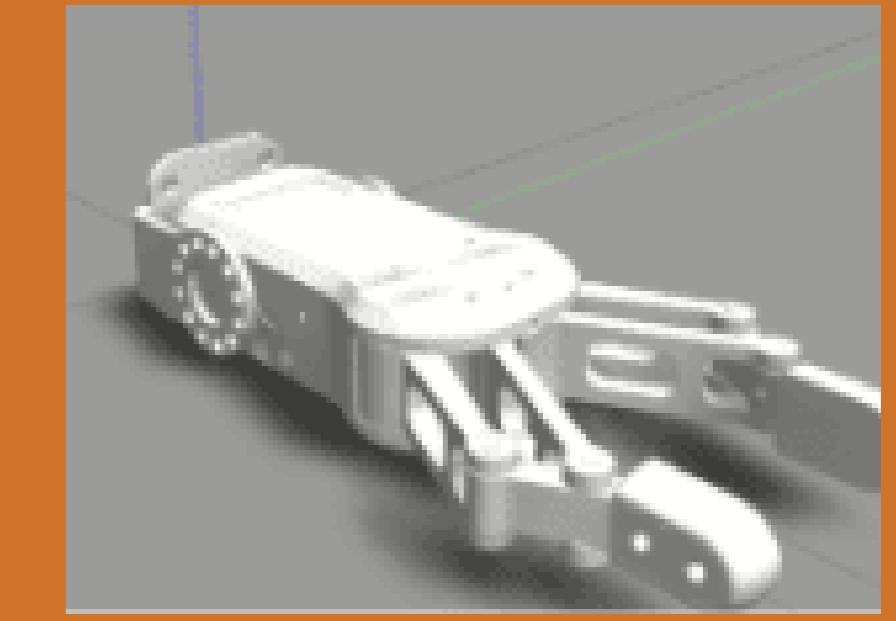
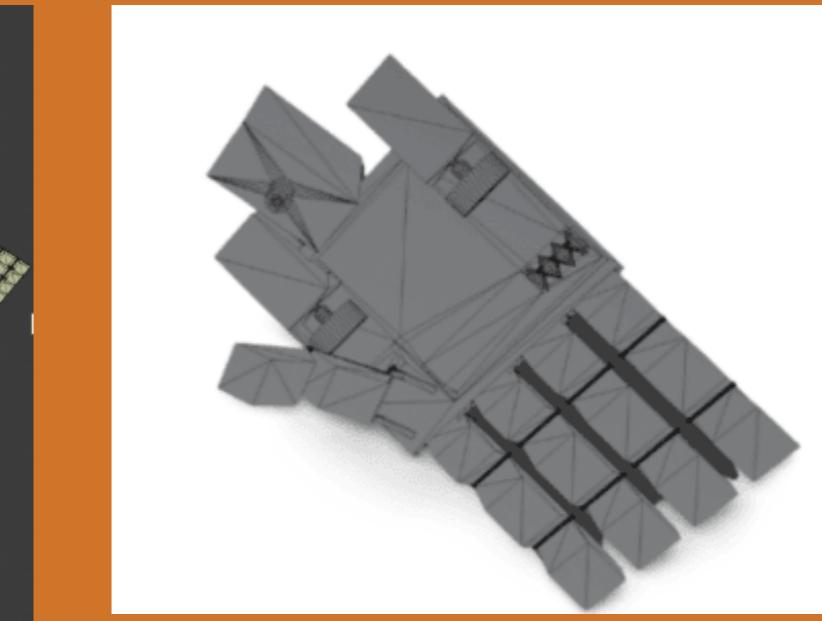
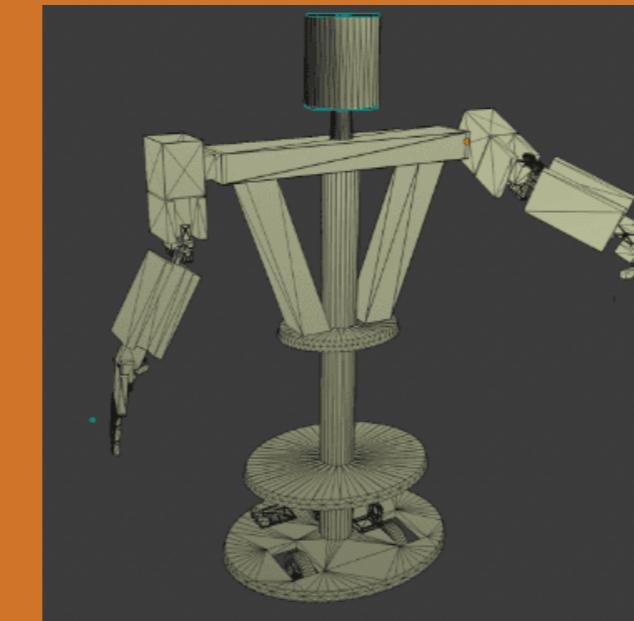


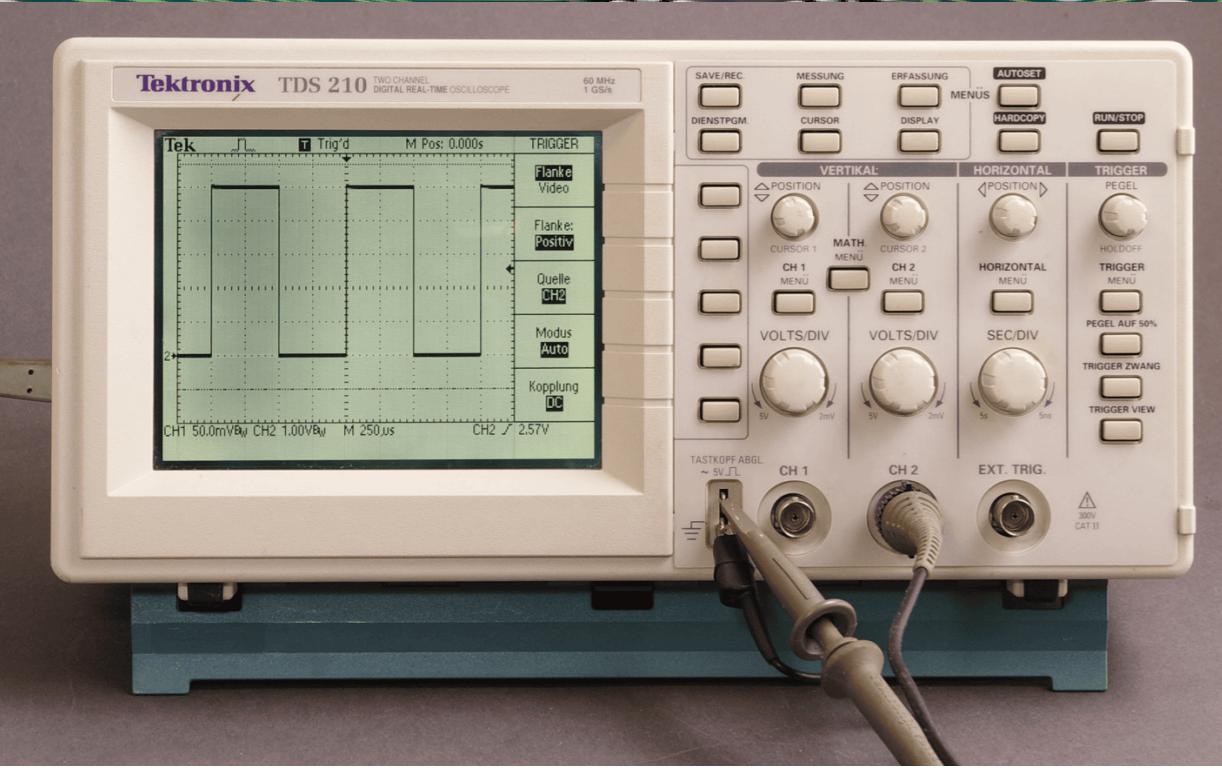
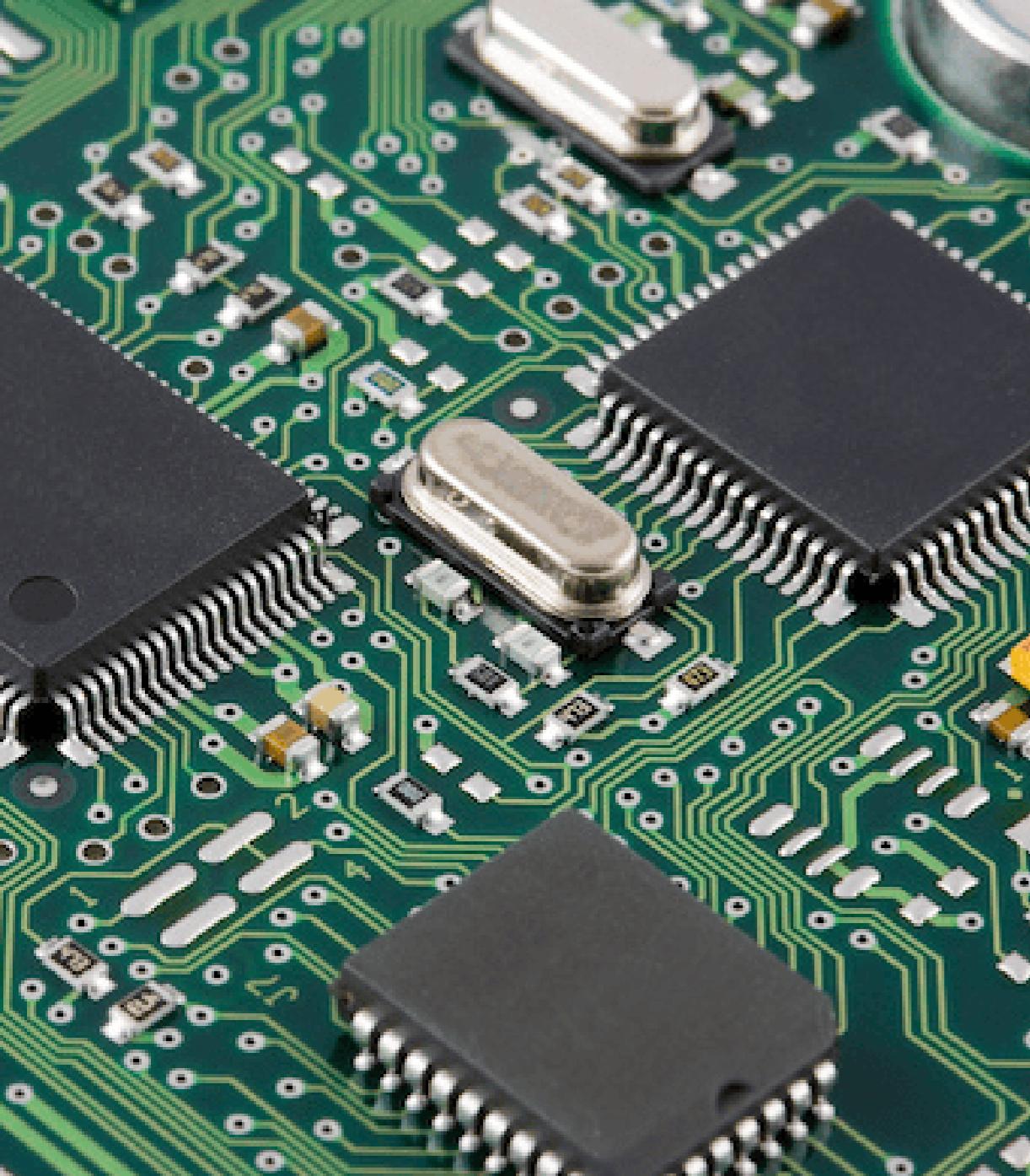
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Robot Design

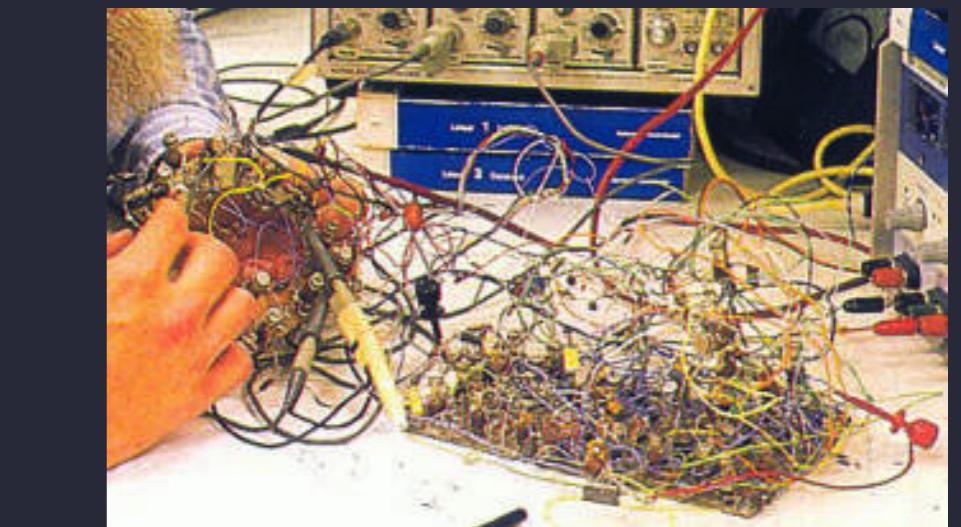
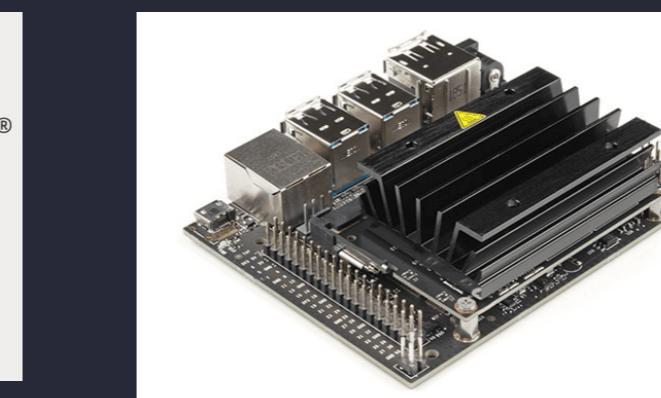
- CAD Modelling using Solidworks
- Designing Joints, Robotic Arm, Wheelbase, Bipeds
- Identifying appropriate materials
- Designing aesthetics and appearance of the humanoid

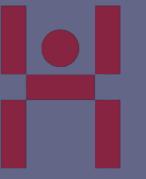




Electronics

- Design Circuits, Programming Embedded Systems, Interfacing Sensors
- Designing PCBs, Power Supply Design
- Battery, Component and Motor Selection
- Reading Datasheets and Deciding the Best Components
- Playing with DSO, Multimeter, Jumper Wires, Breadboards
- Optimizing Hardware to run AI Workloads,





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Business

- Social media account management
- Business deck proposals and presentation
- Content and post creation for Instagram and LinkedIn
- Website, merchandise, hoodies design



THE
DESIGN TEAM



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Why should you join?

- Get to work at the forefront of upcoming future research papers and patents
- Learn to work with cutting-edge technology in various sectors
- Guided mentorship and learnings from seniors in the field
- Cool resume point



Recruitments 2023

We will be releasing the recruitment assignment shortly. Join the WhatsApp group to stay updated.
Instructions would be enclosed.





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Thanks!

Do you have any
questions?

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