

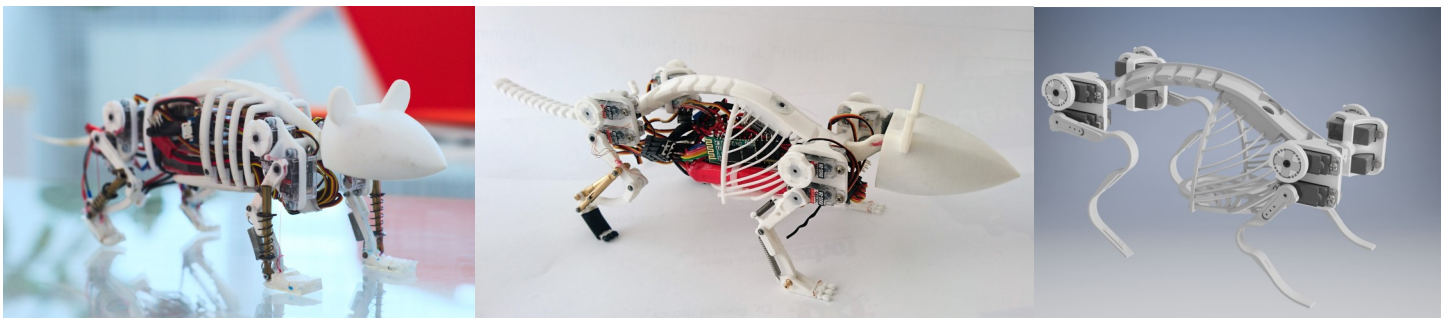
# Actuation design for a rodent robot

We developed a rodent robot within the HBP-Project in order to study mechanics and control mechanisms within rodent brains. This robot will be constantly adapted and improved, to better mimic the biological model.

## POSSIBLE TASKS

Your task is to improve the range of motion for our biomimetic robot either in hardware development or in our simulation environment, the neurorobotics platform, using the NRP Robot Designer. As the robot is constantly evolving, different tasks are possible. All tasks involve a biomimetic approach based on the physiology of the mouse. Which is to be designed and evaluated.

- 1) Design of an actuated spine to change the COG for walking and climbing motions
- 2) Design of a scapula for a biomimetic robot for grasping tasks
- 3) Design of an biomimetic actuated head including sensory systems.



Mouse Robot different Versions

All of these topics can be addressed in a Bachelor's or Master's thesis or a Semester Project.

## REQUIRED SKILLS

- Background in CAD or Blender
- Interest in Biology
- Rapid Prototyping Techniques (Hardware) / Gazebo and Python (Simulation)

## CONTACT

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