

# NAO VI Guide

## Basic Instructions



**Division of Neurology**  
Faculty of Medicine



**ELECTRICAL & COMPUTER  
ENGINEERING**

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For:

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# Introduction

This document serves as a comprehensive quick-start and reference guide for operating the **NAO6 humanoid robot**. It is intended for use by researchers at **The NEST Lab, University of British Columbia**, to ensure safe handling, proper operation, and effective utilization of NAO's built-in capabilities.

The following sections provide step-by-step instructions on powering the robot on and off, engaging and disengaging its motors, and understanding the functionality of the chest button. In addition, it outlines key **safety guidelines** and **precautions** to protect both the robot and its users, including handling procedures, environmental conditions, and actions to avoid during operation.

Finally, the guide summarizes NAO's **pre-built voice commands and basic functions**, allowing users to interact with the robot through natural speech in multiple languages. Together, these instructions aim to support smooth integration of NAO into educational and research activities while maintaining the robot's longevity and performance.

## Safe Handling & Operation

**Hold by the waist / torso** when handling the robot (especially when the motors are OFF) to avoid pinching or stressing joints.

**Turn motors OFF (disengage motors)** before repositioning, carrying, or changing pose.

**Fully charge the battery before first use**, and periodically (e.g. monthly) even during long-term storage, to preserve battery health.

**Use only the supplied power cable / charger** and check for damage; do not use worn or non-approved cables.

**Keep the robot indoors** in controlled environment (5 °C to 35 °C, humidity under ~80 %) and away from dust, sand, moisture, and corrosive atmosphere.

**Disconnect power / turn OFF** the robot before cleaning or maintenance.

**Use a soft dry cloth or gentle wipes** to clean surfaces.

**Leave clearance around the robot** (e.g. radius ~0.6 m / 2 ft) so it doesn't knock into objects when it moves.

**Let NAO cool down / rest if the joints are hot**, avoid continuous heavy motion without breaks.

**Press the chest button** (once, or twice) to hear notifications or to toggle motor engagement/rest mode.

## Things to Avoid

**DO not place nao on a table or desk. It DOES NOT detect edges.**

**Do not place hands or fingers near joints or between limbs**, you risk pinching or damaging the robot.

**Do not pull or drag the robot by head, arms, legs, or fingers.** These are delicate and may detach or break.

**Do not force or push on motors** while engaged, or force limbs beyond their natural motion ranges.

**Do not use water, spray liquids, or aerosol cleaners**, especially while powered or plugged in.

**Do not use alcohol-based or ammonia-based cleaners**, especially on joints or surfaces.

**Do not cover the robot's head, vents, sensors, or joints** (e.g. with cloth, clothing accessories, makeup/paint) they may block airflow or sensors.

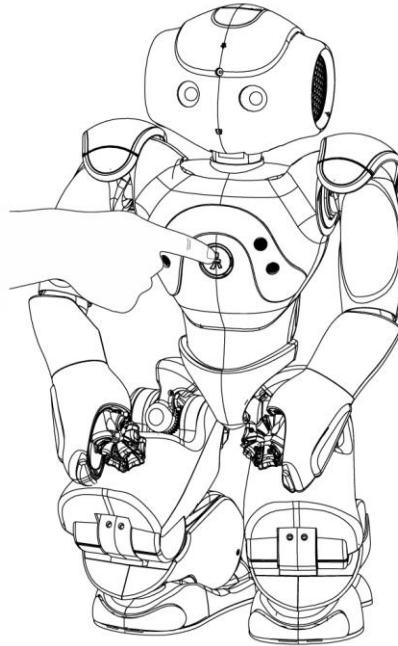
**Do not charge or operate the robot outside its safe temperature / humidity ranges** — extreme heat/cold or high humidity may damage internal components.

**Do not attempt to disassemble, open, crush, deform, or modify parts of the robot** unless following authorized instructions.

**Do not operate the robot outdoors, on uneven or soft surfaces (thick carpets, rugs, mats)** or near hazards (edges, stairs) that could cause a fall.

**Do not use the robot while charging or connected by Ethernet during motion**, especially if that could risk cable damage.

# Functionality of Chest Button



*Figure 1 Chest Button Location*

## Turning NAO ON

Press his chest button and wait for approximately 2 minutes, NAO will boot up.

## Turning NAO OFF

Hold his chest button for three seconds and wait for approximately 1 minute, NAO will go into crouch position if it was in standing position and will turn off.

## Forced Turn OFF

If NAO doesn't turn off using the above method, press and hold the chest button for 8 seconds, then NAO will turn off instantly.

Be careful and hold the robot as it will disengage its motors.

You may lose your data when using this method.

## Turning the Motor ON/OFF

Quickly double press the chest button will toggle the motors on NAO. Disengage NAO's Motors to pick up NAO, change its posture, or cool down the robot's motors.

## NAO's Pre-Built Capabilities

### Basic Functions

The original capabilities of the NAO are put on the robot by subscribing to the Aldebaran "Basic Channel." Official documentation on this channel lists and describes its capabilities.<sup>1</sup> Below is a small table listing some of the pre-built phrases that NAO can respond to.

*Table 1 Built-in Interactive Words & Phrases*

Dance	Sing
What's up	Hello
Like	Love
See you later	Good-bye