



# General Operating Manual for NAO Robot by Aldebaran (SoftBank Robotics)

Version: 1.0

 **Date:** [Insert Date]

 **Prepared by:** [Your Name/Company]

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## 1. Introduction

### Overview

The **NAO Robot** by **Aldebaran Robotics (SoftBank Robotics)** is a **humanoid robot** designed for research, education, and entertainment. Equipped with **AI-powered speech, movement, and interactive sensors**, it offers endless possibilities for robotics programming and automation.

## Key Features

- ✓ **Human-like Interaction:** Recognizes faces, voices, and gestures
- ✓ **Programmable with Choregraphe & Python SDK**
- ✓ **Wi-Fi & Ethernet Connectivity**
- ✓ **Autonomous Navigation & Obstacle Detection**
- ✓ **Speech Synthesis & Recognition in Multiple Languages**

## Safety Precautions

- ⚠  **Do not drop or apply excessive force** to avoid damage
  - ⚠  **Avoid exposure to water or extreme temperatures**
  - ⚠  **Charge using the provided adapter only**
  - ⚠  **Keep away from small children & pets when in motion**
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# 2. Getting Started

## Unboxing & Setup

📦 Inside the box:

- ✓  **NAO Robot**
- ✓  **Charging Adapter**
- ✓  **USB Cable & Ethernet Cable**
- ✓  **User Guide**

## Charging & Powering On/Off

- 🔌 **Charging:** Connect NAO to the charger & allow full charge (~2 hours)
- 🔘 **Power On:** Press & hold the **chest button** until the eyes light up
- Power Off:** Hold the chest button for 3 sec → Select **Shutdown**

## Initial Configuration

- 1  **Connect to Wi-Fi:** Use **Choregraphe Software** or **Robot Settings Panel**
  - 2  **Update Firmware (if needed):** Go to **SoftBank Robotics Support**
  - 3  **Test Movements & Voice Commands**
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## 3. Basic Operations

### Moving & Navigation

- ❑ **Basic Movements:** Forward, Backward, Turn Left/Right
- ❑ **Arm Gestures:** Wave, Handshake, Pointing

### Voice Commands & Speech Recognition

🗣️❑ Example:

- "Hello NAO" → NAO responds
- "Move forward" → Walks forward
- "Sit down" → Kneels down

### Gesture Control

- ❑ NAO can recognize **hand gestures** and respond accordingly
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## 4. Programming NAO

### Using Choregraphe Software

- Drag & drop commands for easy visual programming
- Prebuilt behaviors & animations

### Python SDK & API Integration

- Write Python scripts for advanced programming
- API allows integration with external applications

### Cloud & Network Connectivity

- Connect to cloud-based AI platforms
  - Remote access & control via Wi-Fi
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## 5. Maintenance & Troubleshooting

### Battery Care

- 🔋 **Battery Life:** ~90 min (Active Mode) / ~5 hours (Idle)
- ✓ **Always store NAO in a cool, dry place**
- ✗ **Do not leave on charge overnight**

## Common Issues & Fixes

- ⚠️ **NAO Won't Turn On?** → Check battery & long-press power button
  - ⚠️ **Wi-Fi Connection Lost?** → Restart router & reconnect via settings
  - ⚠️ **Stiff Joints or Unresponsive?** → Reboot & recalibrate motors
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## 6. Advanced Features

### 💡 AI & Machine Learning

- Train NAO for **face & emotion recognition**
- Speech processing & **language learning**

### 🔌 IoT & Smart Home Integration

- Connect NAO to **smart devices** like lights, TVs, & sensors

### 📱 Mobile App Control

- Use the NAO remote app for **manual control & monitoring**
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## 7. Appendix

### Technical Specifications

- 📏 **Height:** 58 cm | 🏋️ **Weight:** 5.4 kg
- 🔊 **Speakers & Microphones:** 4 microphones, stereo speakers
- 📷 **Cameras:** 2 HD cameras for face recognition
- 🔌 **Ports:** USB, Ethernet, Wi-Fi, Bluetooth

### Software Updates & Support

🔗 [SoftBank Robotics Support](#)

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🚩 **End of Manual**