

A white humanoid robot with red accents, standing against a dark background with faint circuit patterns. The robot has a red visor, red shoulder pads, and a red chest plate with a small logo. Its arms are slightly out to the sides, and its legs are visible at the bottom.

**NAO**

Robots **LAB**

# Discover new horizons for education and research

Robotics represents the fast growing segment of advanced technology used in both education and research.

NAO Evolution is the ideal companion for teaching Robotics as well as STEM (Science, Technology, Engineering, and Math) topics to all levels, from secondary to higher education. By using NAO, teachers and researchers will appreciate and investigate multiple capabilities through this platform.

**ATTRACTIVE PLATFORM • FULLY AND EASILY PROGRAMMABLE • HIGHLY INTERACTIVE • MULTIPLE SENSORS ONBOARD CONTROL • READY TO USE**

A photograph of three students in a laboratory setting. A young man in a light blue shirt sits on the left, looking at a laptop. A young woman in a purple shirt stands in the center, interacting with a white and blue humanoid robot. A young man in a purple shirt sits on the right, also looking at a laptop. Two other smaller robots are on the table. The background shows lab equipment and a high ceiling with lights.

# With this companion everything is possible.

## FOR TEACHERS

Increased student engagement, female and male alike  
Enhanced effectiveness in reaching teaching goals  
Cross-curriculum, project based, hands-on learning

## FOR STUDENTS

Connecting theory with practice through hands-on tests  
Fostering team work, project management, problem solving and communication skills  
Inspiring a higher level of motivation and interest for technical career paths

## FOR RESEARCHERS

Ideal test platform for conceptual and theoretical models  
Autonomous companion for hands-on experiments  
Intuitive software environment with multi-language programming

# Let your imagination run wild!



## SECONDARY EDUCATION

- Discover algorithmic, boolean logics basics or and object programming
- Encourage creativity by designing human-like animations
- Understand control laws by analyzing sensors and joint data
- Develop projects around NAO's interaction with its environment



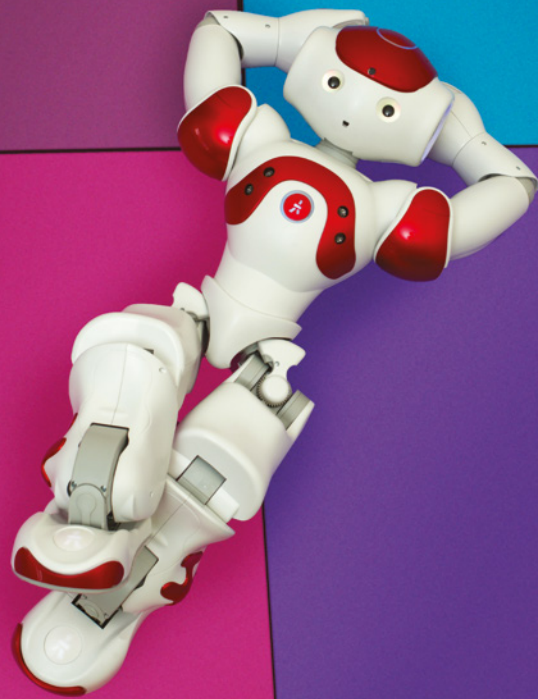
## HIGHER EDUCATION

- Experience enhanced object and speech recognition capabilities
- Explore advanced human-robot interaction
- Create complex behaviors by mixing vision, motion and audio
- Develop projects such as writing or playing manual games

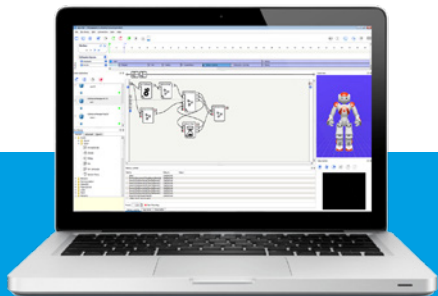


## RESEARCH

- Research on human robot interaction / perception and cognition
- Research on navigation, localization or locomotion
- Create advanced modules by using APIs
- Explore new avenues in other cognitive sciences



# Program your NAO according to your needs



## CHOREGRAPHE

Program impressive behaviors with a simple drag and drop of boxes or complex coding

An advanced software package that makes it intuitive to program NAO using a drag and drop interface, which simplifies the programming for new and advanced users alike.



## SIMULATOR - WEBOTS

Testing your design in a 3D workspace

The perfect software to accompany your class or research: interfaced with Choregraphe, it is a safe place to test programs on NAO in a simulated environment before applying them in the real world.



## CURRICULA

Experiment new ways to teach with NAO

A comprehensive textbook, made of modules and exercises, recognized as top introduction to robotics. A practical tool for different levels: from secondary school to higher education. A large range of topics as computer science, mathematics, mechanics, matrix, transformation, video, and more!

## SDK

Develop incredible behaviors by embedding your modules

A user-friendly and well documented SDK which allows you to embed the modules you developed into your robot to give him more capabilities and intelligence. Our SDK is compatible with many robotics development platforms and languages (C++, Python, Java, MatLab,...)

## MONITOR

Access high precision data from NAO's sensors and actuators

A desktop application allowing measurements and graphical data from NAO's sensors and joints. You can better analyze how NAO responds to different movements.

# NAO, the complete platform for education and research needs



WIFI

TACTILE SENSORS

DIRECTIVE MICROPHONES

HD CAMERAS

LOUDSPEAKERS

INFRARED SENSORS

ULTRASONIC

PREHENSILE HANDS

FORCE SENSITIVE SENSORS

INERTIAL UNITS

LITHIUM BATTERY

METAL GEARS

BUMPERS

Recognizes clearly people and objects  
Tracks perfectly using its whole body  
Uses new extractors for people perception  
Talks in an expressive and appropriate way



# Discover exclusive testimonials

« For our research it has proven crucial, that NAO has an appealing design. The cute appearance along with the speech synthesis capabilities allows us to easily initiate conversations and human-robot interactions.»

Heni Ben Amor [Doctor]  
Institute of Computer Science, Freiberg, Germany

« I had students from our nursing and carpentry programs beating down my door for an opportunity to work with NAO. These students were captivated by the humanoid robot in a way that traditional robotics platforms and computer software simply could not duplicate.»

Mike Beiter, CS teacher  
Central Erie school district, PA, USA

« Our students are engaged much more quickly and deeply using NAO, as opposed to screen-based computers. You can tell by their expressions as they see the programs they created really come 'alive'.»

Andrew Turpin PhD Associate Professor  
The University of Melbourne, Australia

# Making interactive robots for the well-being of humans

RobotsLAB

 ALDEBARAN  
Robotics

Founded in 2005 by Bruno Maisonnier and now established in France, United States, China and Japan, Aldebaran Robotics designs, produces and commercializes humanoid robots with the aim of contributing to the well-being of humans. Today, over 5,000 NAO are in use throughout the world as research and educational tools in more than 70 countries around the world. Aldebaran Robotics counts more than 400 people, including 40% of R&D, who are involved in the development of its robots.

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