

Next-gen Interactive COunterpart

Introducing NICO

NICO is a system of virtual avatars — lifelike digital representations of humans, capable of realistically responding to user input, and carrying on meaningful conversations, interrogations, and instructions.

NICO integrates artificial intelligence (AI) and machine learning (ML) technologies with augmented reality (AR) to elevate virtual avatar interactions to unprecedented levels of realism, revolutionizing how we engage with digital systems as sentient beings.



Speech Recognition & Synthesis

Advanced algorithms accurately transcribe user input into text, enabling virtual avatars to understand and interpret the nuances of human speech patterns, including accents, dialects, and variations in tone and inflection.

High-fidelity text-to-speech capabilities accurately replicate the rhythm, intonation, and cadence of human speech, enabling NICO to respond with realistic speech patterns that are indistinguishable from those of a human speaker in hundreds of languages, including multilingual translations.

Large Language Models (LLMs)

Offline secure versions of LLMs generate highly detailed, coherent, context-specific text-based responses to user input allowing virtual avatars to respond with nuanced and sophisticated answers that are tailored to the specific context of the conversation.

Flexible display options

NICO can be presented in Augmented Reality headsets, TVs, projectors and other display screens.

Computer Vision, Detection, and Recognition

Provide the ability to detect and recognize human and pet life forms and interpret real-world environments, determining the presence, orientation, distance, posture, small arms weapons, and other objects. This combination of techniques allows virtual avatars to interact realistically with physical spaces and react to physical input.

Augmented Reality

NICO brings the virtual world into the real world. Using augmented reality devices to display opaque virtual entities into real world settings. NICO's facial gestures and motions can be seen and recognized by the wearer.

Avatar visualizations are powered by a machine-learning library that generates facial animations from either pre-recorded audio or synthetic audio.



The Many Uses of NICO

Border Screening

A labor-reducing aid for border control agencies, NICO detects deceit, performs facial, voice, and fingerprint recognition, and connects to relevant databases, acting as a first-line filter in airports and other border and security control points. NICO can simulate a variety of behavioral cues associated with potential criminal or terrorist activities, or exhibit a range of threat indicators, such as nervous movements, erratic behavior, or carrying suspicious objects so officers learn to identify suspicious behaviors/threats and respond appropriately.



Military Training

NICO offers a versatile and effective tool for military training, allowing soldiers to hone their skills in threat detection, crowd control, communication, and decision-making in a safe and controlled environment. The NICO system creates realistic, simulated environments that mimic scenarios soldiers may encounter in the field. This includes crowded spaces, urban landscapes, and various levels of threat situations. Soldiers can navigate through these simulations encountering avatars that need to be analyzed allowing them to practice and refine their skills in observing and analyzing human behavior.

NICO is a flexible system that can be used anywhere up close and personal interactions are needed.

Benefits:

- Cost Efficiency – continuous service without the limitations imposed by human working hours.
- Increased Efficiency and Productivity – performs repetitive tasks consistently and without fatigue.
- Consistency in Interactions – reduces the likelihood of errors or miscommunications in certain scenarios.
- Data Analysis and Pattern Recognition – analyze vast amounts of data, identify patterns, and derive insights.
- Language and Cultural Adaptability – Programmed to interact seamlessly in multiple languages and adapt to various cultural nuances, their versatility is enhanced in global applications.
- Tailored Experiences – NICO can be customized to provide personalized experiences, such as in customer service applications, by learning and adapting to individual preferences over time.