AMECA DESKTOP

ACADEMIC AI RESEARCH PLATFORM

ENGINEERED ARTS

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Introduction

Ameca Desktop is the world's most capable expressive robot. Able to interact with people in natural intuitive way.

A reliable hardware platform, built without compromise from aerospace quality components, Ameca Desktop uses the Tritium 3 software framework to enable rapid integration of AI software components.

A robot with a distinctive design aesthetic that's gained worldwide recognition, and positive user response.

The first generation Ameca was released in early 2022 and instantly won the hearts and minds of the world, racking up tens of millions of views on social media.

The second generation builds upon the successful platform by greatly increasing the fidelity of the face, giving unmatched expressive capabilities and superior lip synchronization.

With intelligence built in, and a powerful cloud-centric software suite, Ameca Desktop is the perfect platform to develop advanced interactions and behaviours.

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Use cases

Integrating robots into healthcare settings

- Building patient trust
- Understanding patient feedback
- Adapting to individual needs
- Addressing confidentiality and data protection

Group interaction, social cues, intention perception

- Interpreting group dynamics
- Understanding non-verbal communication
- Inferring intention and meaning

User awareness and engagement

- Context awareness
- Adapting language and behaviour based on situation
- Effective engagement with different users in different settings

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Expressions Examples

Content

Happy

Sad

Disgust

Surprise

Anger

Fear

Confused

Thinking

Joy

Cringe

Worried

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Tritium 3

With a browser-based development environment, Tritium 3 OS provides everything you need to get the most out of your robot. For both the developer and the creative, you can control complex hardware with a modular, intuitive UI

Viz

See your Virtual Robot's movements in real-time, without the need for a physical robot

- Supports face detection and speech recognition for easy remote operation
- View your robot's SDF files

Animator

Our animation studio offers features essential to any animation software and makes creating amazing sequences for your robot easy

- Timeline with curve editor - edit keyframes with Step, Linear, and Bezier curve types
- Generate TTS assets using the speech engine of your choice
- Collaborate with shared projects and assets

Scripts IDE

For developers - our in-browser Python IDE allows you to add extra functionality to your robot with custom scripts

- Create and play - run your scripts instantly
- Easy-to-use console and debug interface
- Built-in version control with Git - no need to worry about backing up your work - effortless collaboration

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Tritium 3

Devices

The Devices control panel allows you to fine-tune your robot's hardware

- Graphing lets you plot feedback from your robot in real-time
- Complex robots require many different parameter controls - modify individual parameters using our responsive control panel

TRITIUM

Poses

Control your robot's movements with an easy-to-use interface

Fine-tune its movements and create your own motion primitives using a wide range of parameters

Telepresence

Operate your robot remotely from the browser

- Your robot becomes an avatar, lip syncing as you talk
- Use the selection wheel to play motion sequences

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32 Degrees of Freedom

Face
25 DoF

Lips
side view

Jaw
2 DoF

Movement envelope

Head and Neck 5 Degrees of Freedom

Neck Pitch

Head Pitch

Neck roll

Head Roll

Head Yaw

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Mechanical Specification

- **Electrical Specification**

  Robot Supply 24Vdc, 200W
  External PSU 100-240 VAC 50-60Hz

- **Connectivity**

  Wired Ethernet RJ45
  USB 2.0
  3.5mm Audio Out

- **Sensors**

  2x HD Eye Cameras
  1 x Beamforming Microphone
  Current sensing on all servos

- **Integrated speaker**

  20w Audio Output

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