Spanish SME offers fully customizable speech recognition technology robust to noise with adaptive learning capabilities.

Summary

Profile type
Technology offer

Company's country
Spain

POD reference
TOES20250318022

Profile status
PUBLISHED

Type of partnership
Commercial agreement with technical assistance

Research and development cooperation agreement

Targeted countries
• World

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Term of validity
18 Mar 2025
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Last update
18 Mar 2025

General Information

Short summary

A Spanish SME has developed a highly efficient speech recognition engine capable of getting accurate transcriptions even in challenging acoustic environments.

The technology features an exclusive AutoLearn capability that adapts to changing audio conditions on the fly. It supports multiple recognition modes and can be customized from scratch for various applications.

The company seeks partners for commercial agreements with technical assistance or research cooperation.

Full description

A Spanish SME specializing in audio and speech technologies has developed a robust speech recognition engine in C++ programming language, designed to keep high accuracy rates in noisy environments and to operate efficiently on systems with hardware restrictions.

The technology offers three main recognition modes:
• Natural language recognition for full transcription of conversational speech.
• Fast optimized custom vocabulary recognition for voice commands in embedded systems or specific vocabularies in call centers.

• Word-spotting mode for detecting keywords in real-time under difficult conditions.

Key features include:
• Adapts on-the-fly to specific audio conditions, improving accuracy in noisy environments or for particular speakers and pronunciations.
• Supports multiple languages and can handle mixed language input.
• Operates on embedded systems with strict hardware limitations.
• Allows full customization with user-defined vocabularies.
• Available as an SDK with a comprehensive API for easy integration.

The technology finds applications in various fields:
• Transcribes natural language in meetings, call centers or media content.
• Gets accurate transcriptions in poor quality tactical radio.
• Monitors phone calls in real-time, spotting keywords and triggering alarms.
• Controls electronic devices and personal assistants by voice commands.
• Powers voice-controlled infotainment systems in vehicles robust to noise.

The speech recognition system can be integrated with the company's voice biometrics technology for continuous speaker authentication on the background, enabling secure transactions in banking applications or secure voice commands.

Advantages and innovations

• Utilizes proprietary AutoLearn technology to adapt to changing acoustic conditions in real-time (audio channel or speaker features).
• Operates efficiently on embedded systems with limited hardware resources (fully developed in C++).
• Supports three distinct recognition modes to suit various application needs.
• Offers high recognition rates even in challenging acoustic environments.
• Allows for full customization with user-defined vocabularies and language models.
• Handles multiple languages and can process mixed language input effectively.
• Integrates seamlessly with other systems through a comprehensive SDK and easy to use API.
• Combines with voice biometrics for enhanced security in sensitive applications.
• Supports a wide range of audio formats and sampling frequencies.
• Includes advanced speech signal preprocessing for improved recognition accuracy.

Technical specification or expertise sought

Stage of development

Already on the market

Sustainable Development goals

- **Goal 17: Partnerships to achieve the Goal**
- **Goal 9: Industry, Innovation and Infrastructure**
- **Goal 16: Peace and Justice Strong Institutions**
- **Goal 3: Good Health and Well-being**
- **Goal 8: Decent Work and Economic Growth**

IPR Status

Secret know-how

IPR Notes

Partner Sought

Expected role of the partner

The Spanish SME is seeking:
• Partners in telecommunications, call center operations, automotive, or home automation industries interested in

integrating the technology into their products or services.
• Defence and police corps for potential collaboration on improving speech analytics in tactical radio.
• Software developers or system integrators specializing in voice-controlled solutions for potential commercial agreements with technical assistance.

Ideal partners should be prepared to either integrate the technology into existing systems or collaborate on developing new applications leveraging this adaptive speech recognition capability.

Type of partnership

Commercial agreement with technical assistance

Research and development cooperation agreement

Type and size of the partner

- **Big company**
- **SME 50 - 249**
- **University**
- **SME 11-49**
- **R&D Institution**

Dissemination

Technology keywords

- **01006003 - Mobile Communications**
- **01003017 - Speech Processing/Technology**
- **11003 - Information and media, society**
- **01005004 - Human Language Technologies**

Market keywords

- **01006002 - Mobile communications, pagers and cellular radio**
- **02007018 - Natural language**
- **01006005 - Other communications (not elsewhere classified)**
- **02007005 - Communications/networking**
- **01004003 - Communications processors/network management**

Targeted countries

- **World**

Sector groups involved