echosonic

Executive summary

Founded	Location	Stage	Sector	Contact
2022	Montreal, QC	Pre-seed	Microphone, AI, IoT	info@ echosonic.ca

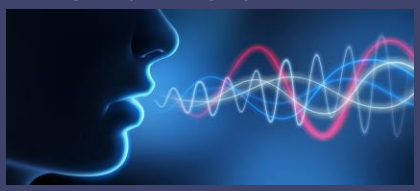
Leadership Team

Siyao Shao
Technique lead

Edmon Perkins
Science advisor

Technology Summary

Echosonic is building next generation smart sensor, especially smart microphone that will provide increased security while reduce carbon footprint caused by eliminating the needs of machine learning training and subsequent inference using high performance computer. The in-house development of MEMS devices integrate signal processing with intrinsic sensor physics, and software features enable recovery and enhancement of original audio signal while processing. As such, Echosonic-backed smart devices solve privacy concerns and networking latency of the incumbents by employing machine learning processing on sensor hardware, eliminating the need of intense cloud-edge data exchange, speeding up machine learning processing by 10x, while ensuring state-of-art accuracy (>90%).



Market Analysis

- Growing concern and legislative pressure on carbon footprint, privacy and security of machine learning audio processing
- Enormous data and bandwidth required for conventional machine learning model development
- Opens up opportunity for devices capable of one-stop machine learning inference, software upgrade, and data encryption
- Targeting verticals and use cases with high security request and >10% CAGR over next decade such as public security, and user identification and device personalization

Product/Business Summary

Echosonic offers one-stop machine learning inference, software upgrade, and data encryption on low-resource edge devices for audio signal. This allows for:

- 10x improvement in speed of key words recognition
- <5% computational resources compared to incumbents
- Limited security loopholes, and enhanced security by data encryption through sensor physics and only sending processed results
- Audio recovery and enhancement while keeping state-of-the-art accuracy compared to legacy devices

The team is developing use cases for this technology in device personalization, public safety, and IoT edge computing

IP Summary

- Echosonic has acquired computing architecture IP licensed from North Carolina State University
- The team is continuously working on new development and plans to file patents for audio signal recovery and enhancement, MEMS-implementation, and inter-device communication

Current Opportunities

- Recruiting an industrial lead in the IoT space, and an advisor in decentralized computing
- Seeking market endorsement from major smart device and IoT-as-a-service providers
- Product development efforts are aimed at launching a development kit by end of 2022; the team will be seeking OEM evaluation and co-development opportunities

Keep in touch