Azure Percept helps Microsoft users make the most of edge AI

March 3 2021, by Sarah Katz

Credit: Microsoft

Edge computing allows an increasing number of standalone mobile devices to perform tasks such as image recognition, response to voice commands and textual translation, without access to the cloud. During its 2021 Ignite digital conference, Microsoft revealed its new edge technology platform, Azure Percept.

Azure Percept entails a selection of hardware and services that seeks to facilitate customers using Azure AI technologies on the edge. The advantages of Azure Percept include cloud functionalities such as analytics, AI model development and device management.

Roanne Sones, corporate vice president of Microsoft's edge and platform group, says the Azure Percept platform's mission is offering customers a centralized, end-to-end system, including AI capabilities and hardware, without the need for strong technical expertise.

For instance, Azure Percept involves a development kit equipped with an intelligent camera called Azure Percept Vision. Additionally, Azure Percept Studio assists customers without a solid coding background in navigating the entire AI lifecycle, including training, development and deployment of proof-of-concept ideas. This type of lifecycle guidance can, for instance, help a client company to identify faulty products on a production line so workers can recall those items before shipping.

The Azure Percept Vision and Azure Percept Audio tools ship separately from the development kit and use Azure cloud services to deploy embedded hardware-accelerated AI modules for edge speech and vision AI. These modules allow for cloud connectivity and hyper-rapid functionality, even when the device operates in an area with poor internet access such as a factory floor or remote location.

Azure Percept devices, including Trust Platform Module, Azure Percept Vision and Azure Percept Audio. Credit: Microsoft

Another unique development of Azure Percept edge technology has bridged the gap between engineers and data scientists, as both hardware manufacturing and AI designs prove crucial for a cohesive platform. This way, citizen developers can assemble these tools without needing expertise in both embedded engineering and data science.

Furthermore, the Azure Percept development kit uses the industry standard 80/20 T-slot framing architecture, which customers predict will streamline proof-of-concept piloting from a vast array of settings before leveling up to more mass production with certified devices. For ease of use, customers will have access to Azure AI Cognitive Services and Azure Machine Learning models in addition to edge-enabled, open-source AI models.

In terms of ensuring internet of things (IoT) security, Azure Percept devices automatically connect to Azure IoT Hub for a safer management experience in the cloud. Moreover, both the Azure AI models as well as the development kit have undergone Microsoft's internal assessment process in order to guarantee compliance with Microsoft's responsible AI principles: fairness, reliability and safety, privacy and security, inclusiveness, transparency and accountability.

Currently, Microsoft continues to work with select trial customers in mitigating concerns surrounding responsible development and deployment of AI on edge devices. Overall, the company aims to develop an ecosystem of intelligent devices that uses AI to serve customers in the same way the Windows operating system helped revolutionize the personal computer marketplace.

More information: Roach, J. "With Azure Percept, Microsoft Adds New Ways for Customers to Bring AI to the Edge." The AI Blog, Microsoft, 2 Mar. 2021, blogs.microsoft.com/ai/with-az … ring-ai-to-the-edge/

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