

Ultra-low Power Always-On Computer Vision

Edwin Park, Principal Engineer, Qualcomm Research

Qualcomm's productized Always on Computer Vision Module provides computer vision at <1mW. This module is the lowest power production on the market today. This average power includes the sensor, power management, the digital components, algorithms, and SW. We achieved this significant achievement in power and functionality by innovating from the ground up on all fronts. From the sensor, custom ASIC components, architecture, algorithm, SW, and custom trainable models, we optimized every component to minimize power and cost. These achievements enable our customer to design products with intelligent always-on vision – which was not previously available to them – with customized CV models specific to their use cases. The power envelope permits the emergence of new categories of IOT devices and the augmentation of many of the devices that you know. The talk will present Qualcomm's chip and system, use cases enabled by this device, and many of the components of this system.