Solution: Independent Mobility for Quadriplegics

RESULTS

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UP TO 18X INCREASE

In inference performance over baseline on Intel NUC Core i7

Partner:
Hoobox develops high-precision face recognition software for detecting human behaviors. The Brazilian startup developed 'The Wheelie', the first ever software capable of translating facial expressions, like kisses and smiles into commands to control a wheelchair.

Challenge: Mobility for SCI (Spinal cord Injury) patients is often enabled through a motorized wheelchair with complex body sensors that require special learning to operate. Moving a wheel chair based on facial expressions requires high levels of throughput (frames per second) and/or accuracy.

Solution: Wheelie detects 11 different facial expressions, such as a kiss, smile, frown, or surprise, and translates them into motorized wheelchair controls. Implementing OpenVINO toolkit with the CPU improved inference performance by 18.33X as MobileNet has layers that run faster on a CPU . This helped in achieving real time , faster execution of a responsive motion change for both a comfortable experience and user safety

Solution Brief: https://www.intel.com/content/www/us/en/artificial-intelligence/solutions/computer-vision-solutions-from-hoobox-enable-independent-mobility-for-quadriplegics.html
Marketing Assets: https://www.intel.ai/hoobox/

Configuration: Sockets: 1S, Processor: i7-7567U, 4 Cores, Total Memory: 32Gb, OS: Ubuntu 16.04, Kernel: Linux 4.15.0-29-generic, Complier: gcc5.4, TensorFlow Version: TensorFlow V1.10, https://github.com/tensorflow/tensorflow, revision 656e7a2b347c3c6eb76a6c130ed4b1def567b6c1, OpenVINO Version: 2018.3.343 . Performance results are based on testing as of October 4, 2018 and may not reflect all publicly available security updates . Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors.
Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visit http://www.intel.com/performance. Performance results are based on testing as of August 2018 and may not reflect all publicly available security updates.
See configuration disclosure for details. No product can be absolutely secure.