Intel Machine Learning for Communication Internship/MSc assignment

Job Description:
A temporary position for a candidate for who has not yet graduated and is working towards a relevant Master’s degree from a relevant academic institute. The candidate will participate in the research and development of acceleration for cutting-edge machine learning algorithms for communication. This includes understanding the algorithms, hardware/software co-design and the design space exploration.

The goal of this assignment is to investigate mapping of various machine learning algorithms for communication on a VLIW+SIMD DSP processor architecture. The student is expected to:

- Make an overview of various algorithms and computational kernels.
- Make a selection of the most relevant algorithms.
- Implement the selected algorithms on a dedicated VLIW+SIMD processor.
- Design proposals for improving the processor performance.

Depending on the candidate's findings and interests, the assignment can move into a more hardware oriented or a software oriented implementation. The outcome of the research will be used to influence and intercept Intel's product roadmap in this domain, targeting adoption in SoCs for cars, smartphones, tablets, laptops, and wearables.

Qualifications:
- B.Sc. degree in Computer Science, Electrical Engineering or related field
- Proven experience with C and C++ (Matlab, Python, and TensorFlow is a plus).
- Excellent problem analysis and engineering skills
- Understanding of processor architecture is a plus
- Good Communication skills in English, both oral and in written form

Duration: 6-9 months
Location: HTC 83, Eindhoven (+cooperation with teams in Germany and California)
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About Intel ICDG:
The Intel Communication & Devices Group (ICDG) is Intel's group representing a broad spectrum of wireless technologies including RF, Wi-Fi, 5G, LTE/LTE-Advanced, Bluetooth, WiGig, GPS/GNSS, to name a few. We are bringing the best ideas from the brightest minds to deliver future mobile experiences into the market.

The Processor Architecture Team in Eindhoven is responsible for improving the DSP processors used for communication, and we do this by benchmarking (based on real world algorithms) and design space exploration.