

## Schedule Intelligent Architectures (Tentative)

5L1LO

Q3 2020-2021

Lectures: Tue 3,4 & Fri 7,8

Nr	Date	Day	Lecturer(s)	Topic(s)
1	Feb 2	Tuesday	Henk Corporaal Berk Ulker	Overview Lecture \- Introduction to ML and CNNs <b>Lab 1 Introduction: ANN design; deadline Feb 25</b>
2	Feb 5	Friday	Berk Ulker	Learning principles
3	Feb 9	Tuesday	Berk Ulker	Learning principles, continued NW design and Frameworks
4	Feb 12	Friday	Maurice Peemen (ThermoFisher)	Optimizations 1: Making the NW cheaper \- Compact aware NW design
<b>BREAK</b>				
5	Feb 23	Tuesday	Floran de Putter Ali Banagozar	Optimizations 2: Making the calculations and storage cheaper \- ANN Quantization <b>Lab 2 Introduction: GPU mapping; deadline Mar 14</b>
6	Feb 26	Friday	Henk Corporaal	Optimizations 3: Exploiting data reuse by scheduling and buffering \- Advanced loop transformations + Intro Halide
7	Mar 2	Tuesday	Henk Corporaal	Optimizations 3, cont'd: Halide details \- Halide language and ANN mapping
8	Mar 5	Friday	Henk Corporaal Floran de Putter	Optimizations 1, cont'd Filter Decomposition Optimization 2, cont'd: Extreme Quantization: BNNs & TNNs
9	Mar 9	Tuesday	Alexios Balatsoukas	Advanced DNNs DNN applications
10	Mar 12	Friday	Kanishkan Vadivel Kanishkan Vadivel	Specific Architectures for ANNs <b>Lab 3 Introduction: ASIP mapping; deadline Apr 1</b>
11	Mar 16	Tuesday	Kanishkan Vadivel	Finishing Specic architectures and General Architectures for ANNs
12	Mar 19	Friday	Willem Sanberg (NXP) Floran de Putter	NAS: network architecture search TimeLoops and ZigZag
13	Mar 23	Tuesday	Amir Yousefzadeh (IMEC) Sherif Eissa	Beyond ANNs \- Spiking Neural Networks (SNNs) and SNN architectures
14	Mar 26	Friday	Martin Villescas & Patrick Wijnings	Beyond ANNs \- Bayesian learning, architectures, and its relation to ANNs
15	Mar 30	Tuesday	Henk Corporaal	Recap
16	Apr 2	Friday		No Lecture (Good Friday)