

Large-Scale Data Processing and Optimisation (LSDPO)

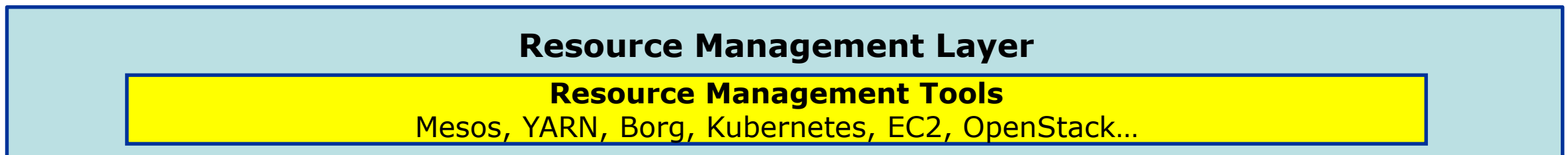
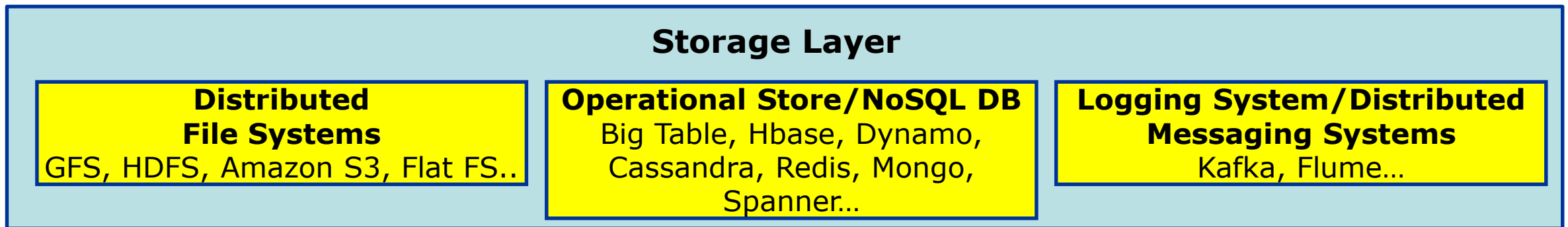
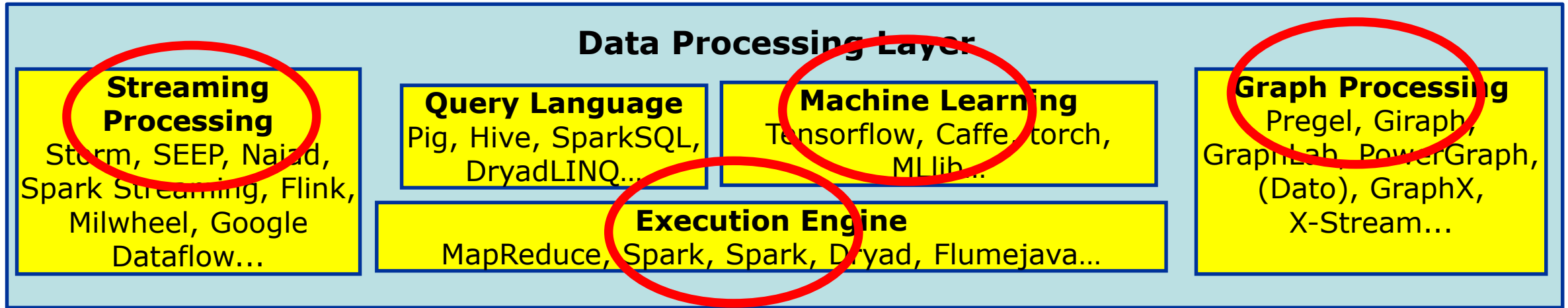

Wrapup

Eiko Yoneki

*Systems Research Group
University of Cambridge Computer Laboratory*

Data Processing Stack

Programming



Parallel Processing Stack

Algorithmic Parameters

Application

Physics/Biology Apps

Commercial Apps

Social media analysis

API

Efficient, Declarative, Expressive Programming Language

High-level

Parallel Programming: lang. (OpenMP, Eigen..) lib. (TensorFlow..)

Low-level

Low-Level APIs (MPI, OpenCL...), Vector-Compiler, SIMD, SPMD...

Hardware

Heterogeneous Hardware (CPU/GPU/ASIC, Memory, Disks), VM



GPU cluster



Cluster (Amazon)



Big Iron
HPC



SSD



FPGA, TPU

OPTIMISATION + Auto-Tuning

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- Thanks for working hard in this course!

