Spark is one of the most widely used frameworks for data analytics that offers fast development of applications like machine learning and graph computations in distributed system. In this talk, I will present SPynq: A framework for the efficient mapping and acceleration of Spark applications on the heterogeneous MPSoC FPGAs, such as Zynq. Spark has been mapped to the Pynq platform that allows the utilization of Zynq devices using python. The mapping of Spark on Pynq allows that fast deployment of Spark data analytics applications commonly used in edge and fog computing. The proposed platform is evaluated in a typical machine learning application based on logistic regression. The performance evaluation shows that the heterogeneous FPGA-based MPSoC can achieve significant speedup compared to high performance, reduced energy consumption and can also reduce significantly the development time of embedded and cyber-physical systems on Spark applications.

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