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RISC-V based, silicon proven open-source processors from the PULP project

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Since 2013, ETH Zürich and University of Bologna have been working on the PULP project to develop energy efficient computing architectures suitable for a wide range of applications starting from the IoT domain where computations have to be done in a few milliWatts, all the way to the HPC domain where the goal is to extract the maximum number of calculations within a given power budget. For this project, we have adopted an open source approach. Our main computation cores are based on the open RISC-V ISA, and we have developed highly optimized 32bit and 64bit RISC-V cores. Together with a rich set of peripherals, we have released a series of open source computing platforms from single-core microcontroller, to multi-cluster systems with tens of cores. So far we have designed and tested nearly 30 ASICs as part of the PULP project and our open source offering has been used by many companies including Google, IBM and NXP. In this talk, I will give an overview of the PULP project and show what we are currently working on.

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