

Senior FPGA Engineer

Beaverton, Oregon (hybrid) | Exceptional remote applicants will be considered

Level: Senior/Staff

Silicon45 is developing a distributed heterogeneous execution platform that combines CPUs and FPGAs to accelerate data analytics and machine-learning workloads. We are seeking a Senior FPGA Engineer to lead hands-on design and delivery of production-quality FPGA acceleration pipelines and platform infrastructure.

About the Role

- Architect and implement streaming data-processing kernels using SystemVerilog/Verilog and C/C++ HLS.
- Build and integrate PCIe, DMA, AXI, HBM/DDR, BRAM/URAM, control, queue, interrupt, and telemetry subsystems.
- Optimize designs for throughput, latency, resource use, memory bandwidth, timing closure, and production reliability.
- Develop verification environments, reference-model comparisons, regressions, and hardware-in-the-loop tests.
- Collaborate with compiler, runtime, distributed-systems, and host-software engineers on end-to-end acceleration.
- Own major FPGA components from requirements through architecture, implementation, bring-up, and performance qualification.

Minimum Qualifications

- 5+ years of FPGA or digital-design experience with complex production or advanced-development systems.
- Expert SystemVerilog/Verilog skills and strong practical experience with C/C++ HLS.
- Hands-on experience with PCIe-connected FPGA platforms, DMA, AXI4/AXI4-Lite/AXI4-Stream, interrupts, and host integration.
- Strong knowledge of HBM/DDR and on-chip memory architecture, pipelining, buffering, backpressure, CDC, reset, and timing closure.
- Strong verification and debug skills using simulation, assertions, coverage, reference models, automated regression, and ILA or equivalent tools.
- Experience with AMD/Xilinx Vivado and Vitis HLS, plus Linux, Python, Tcl, Git, and C/C++ host software.

Preferred Qualifications

Preferred experience includes data-center or cloud or edge FPGA platforms, AWS F1/F2, distributed data-processing frameworks, database or analytics acceleration, RDMA/networking, multi-FPGA systems, and early-stage product development.

Compensation & Application

Compensation: Base salary plus equity, medical insurance, and 401(k).

Apply: Send your resume or CV to jobs@silicon45.com with a short description of one or two performance-critical systems you personally designed or optimized, including the bottleneck, your change, and the measurable result. Please do not include confidential information.