



## Principal Design Engineer

### Job description

We are seeking a motivated and dedicated hands-on SoC architect to help develop our next-generation artificial intelligence computing architecture alongside a multi-functional team of world-class engineers.

#### In your new role you will:

- Your work will be highly visible and critical to delivering the best performance and power efficiency of Infineon's future products
- Define the Architecture/Software/Hardware of very high-performance analog in-memory computing chip in a rapidly changing AI/ML application space
- Define micro-architecture of key hardware component of neural network acceleration hardware and prototype hardware designs
- Writing architectural specification documents in collaboration with engineers across different disciplines and closely and collaborate on features set definitions
- Work across disciplines, brainstorm big ideas, work in new technology areas, juggle/coordinate multiple initiatives, drive a concept into a prototype and ultimately guide the transition into a high-volume consumer product
- Collaborate with RTL engineers and verification team to verify the correctness of chip top level and identify performance bottlenecks and optimize system performance
- RTL coding in Verilog leveraging on both industry tools as well as open-source infrastructure
- Deep understanding of memory access patterns and usage of system caches for one or several of the following SoC components: CPU, GPU, Camera/Video & Machine Learning HW accelerators
- Perform power/performance/area analysis and tradeoffs at the system level to compare architectural design alternatives
- Deploy innovative techniques for improving performance, perf @ watt, perf / sq. mm of the design, drive experiments with RTL and evaluate synthesis, timing and power results

### Profile

#### You are best equipped for this task if you have:

- More than 10 years of experience architecting high performance chips
- Expertise in **SoC architecture** definition, Clocks, Resets, caching techniques, Interconnects, **Memory Controller**, Boot, Virtualization, Power Management,

### At a glance

Location:	<b>Colorado Springs, CO (United States)</b>
Job ID:	<b>327700</b>
Start date:	<b>as soon as possible</b>
Entry level:	<b>5+ years</b>
Type:	<b>Full time</b>
Contract:	<b>Permanent</b>

Apply to this position online by following the URL and entering the Job ID in our job search:

Job ID: **327700**  
[www.infineon.com/jobs](https://www.infineon.com/jobs)



Security, System Performance, IO technologies, (PCIe, Camera Interfaces, etc), Multimedia accelerator pipelines, CPU/GPU coherency, Platform integration

- **Verilog** expertise and deep understanding of **ASIC design flow**, **RTL design**, logic synthesis, prototyping, and timing closure
- Strong knowledge of different memory architectures and technologies
- Prior work on analyzing the memory access patterns and bandwidth/latency requirements of Camera, Video, Graphics, or Machine Learning hardware accelerators preferred
- Experience on compiler and machine learning frameworks such as Tensorflow /ONNX/Pytorch is a good plus
- Knowledge of programming languages such as C, Python, Matlab, SystemC
- Knowledge of ARM Processors and AXI Interconnects
- Knowledge of GPUs, FPGA and ML/AI Accelerators
- Knowledge of chip-to-chip interfaces and packaging technology
- Experience in heterogeneous SoCs and NoC interconnects is a good plus
- Strong communication and interpersonal skills are required working with our global team

### **Automotive (ATV) shapes the future of mobility with microelectronics enabling clean, safe, and smart cars –**

Our semiconductors are essential for supporting the automotive megatrends: electromobility, automated driving, connectivity, and advanced security. They link the real and the digital world, driving the ever-advancing pace of automotive digitalization. Infineon **ATV** is the number one semiconductor partner in the fast-changing automotive world, based on our system knowledge and our passion for innovation and quality. [Click here](#) for more information about working at ATV with interesting employee and management insights and an overview with more #ATVDreamJobs.

## Why Us

### **Part of your life. Part of tomorrow.**

We make life easier, safer and greener – with technology that achieves more, consumes less and is accessible to everyone. Microelectronics from Infineon is the key to a better future. Efficient use of energy, environmentally-friendly mobility and security in a connected world – we solve some of the most critical challenges that our society faces while taking a conscientious approach to the use of natural resources.

*Infineon Technologies Memory Solutions is an equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex (including pregnancy, childbirth, or related medical conditions), gender identity, national origin, ancestry, citizenship, age, physical or mental disability, legally protected medical condition, family care status, military or veteran status, marital status, domestic partner status, sexual orientation, or any other basis protected by local, state, or federal laws. Applicants with questions about access or requiring a reasonable accommodation for any part of the application or hiring process should contact the Talent Network by phone at (408) 503-2194.*

Employment at Infineon is contingent upon proof of your legal right to work in the United States under applicable law, verification of satisfactory references and successful completion of a background check and drug test, and signing all your onboarding documents .

In some instances, if applicable, U.S. export control laws require that Infineon obtain a U.S. government export license prior to releasing technologies to certain persons. This offer is contingent upon Infineon's ability to satisfy these export control laws as related to your employment and anticipated job activities. The decision whether or not to submit and/or pursue an export license to satisfy this contingency, if applicable, shall be at Infineon's sole discretion.



**IMPORTANT NOTICE:**

Infineon is requiring all new U.S. employees and contractors to be fully vaccinated against COVID-19. Full vaccination is defined as two weeks after both doses of a two-dose vaccine or two weeks since a single-dose vaccine has been administered. Anyone unable to be vaccinated, either because of a sincerely held religious belief or a medical condition or disability that prevents them from being vaccinated, can request a reasonable accommodation.

Infineon Technologies takes data privacy and identity theft very seriously. As such, we do not request personally-identifiable information (PII) from applicants over the internet or electronically. Please kindly refrain from disclosing your PII electronically during the application process or to unauthorized websites that may purport to be Infineon or any of our affiliates.

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