



Internship: System Study on embedded RISC-V multi-core Power Controller Solution (f/m/div)*

Job description

You are interested in an internship dealing with an embedded power controller solution? In this internship you strengthen your knowledge in the field of compute cores with RISC-V core instances. Your task will be to replace the existing compute cores with RISC-V core instances. The system then needs to be mapped to an existing FPGA solution to be further benchmarked. Current software and firmware will then be ported to this new system and profiled against the existing solution. You will also map complex processing chains on a heterogeneous multi-core SoC. If you want to gain insights into state-of-the-art digital design flows and their requirements for hardware, then this is the perfect internship for you! Apply now!

As part of the Power & Sensor Systems (PSS) division, the System Innovation and Software department (SIS) provides innovative system studies and solutions. We currently launching our Development Center in Dresden some of the best experts in the industry have started already to develop leading edge technology for tomorrow's PSS products. Become one of them by joining our motivated team and find the perfect environment to achieve success!

In your new role you will:

- Understand an existing **Power Controller solution**
- **Analyze** the **design** and **exchange** current **processing cores** with **RISC-V cores**
- **Map algorithms** to complex **multi-core MCUs** with different compute cores
- Build up a **system prototype** in **simulation** and **FPGA environment**

The position is an internship position, with success in the system study this could trigger a follow-up master thesis.

Profile

We are looking for a quick learner with knowledge in different areas. You will need a basic understanding of the underlying physical principles, the algorithmic processing in an multi-core environment, embedded software engineering and microcontroller architectures.

You are best equipped for this task if you:

- Are currently studying **Computer Science, Electrical Engineering** or a related subject
- Have background knowledge in the field of **digital circuit design** and **ASIC design flow**

At a glance

Location: **Dresden (Germany)**
Job ID: **362342**
Start date: **Oct 01, 2022**
Entry level: **0-1 year**
Type: **Full time**
Contract: **Temporary**

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

Job ID: **362342**
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Contact

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- Have experience with **RISC-V architecture** and **FPGA**
- Have programming skills (ideally **Python** and **C/C++**) and first hands-on experience with microcontrollers e.g. through own projects
- Enjoy working in an **international team** and are **eager to learn new things**
- Speak **English fluently** - German would be a plus

Please attach the following documents to your application:

- CV in English
- Certificate of enrollment at university
- Latest grades transcript
- High school report

Benefits

- **Dresden:** Coaching, mentoring networking possibilities; Wide range of training offers & planning of career development; International Assignments; Different Career Paths: Project Management, Technical Ladder, Management & Individual Contributor; Flexible working conditions in office jobs; Home Office possibilities; Part-time work possible (also during parental leave); Spots in local kindergarden; On-site social counselling and works doctor; Health promotion programs; Fitness Room; On-site canteen; Private insurance offers; Wage payment in case of sick leave; Corporate pension benefits; Flexible transition into retirement ; Performance bonus; Reduced price for public transport, car sharing, charging station for e-cars and e-bikes; Accessibility, access for wheelchairs

Why Us

Part of your life. Part of tomorrow.

Infineon is a world leader in semiconductor solutions that make life easier, safer, and greener. Our solutions for efficient energy management, smart mobility, and secure, seamless communications link the real and the digital world.

– Power & Sensor System (PSS) drives leading-edge power management, sensing and data transfer capabilities –

Infineon PSS semiconductors play a vital role in enabling intelligent power management, smart sensitivity as well as fast and reliable data processing in an increasingly digitalized world.

Our leading-edge power devices make chargers, adapters, power tools and lighting systems smarter, smaller, lighter and more energy-efficient. Our trusted sensors increase the context sensitivity of “things” and systems such as HMI, and our RF chips power fast and reliable data communication.

Infineon Technologies Dresden GmbH & Co. KG is one of the largest production sites of Infineon Technologies AG with more than 2.500 employees. Every week thousands of silicon wafers pass through the highly complex production system in our high end clean room. The site in Dresden was one of the world's first high-volume production sites for power semiconductor devices on 300mm wafers.

For more information about our site in Dresden please check out the following link:

<https://www.infineon.com/cms/dresden/en/>

** The term gender in the sense of the General Equal Treatment Act (GETA) or other national legislation refers to the biological assignment to a gender group. At Infineon we are proud to embrace (gender) diversity, including female, male and diverse.*

