



Working Student / Internship (all genders) – Full Custom Digital and SRAM Cells for Spiking Neural Network (SNN) Accelerators

The <u>Fraunhofer-Gesellschaft</u> is one of the world's leading organizations for applied research. 76 institutes develop pioneering technologies for our economy and society – more precisely: 32 000 people from technology, science, administration and IT. They know: Anyone who comes to Fraunhofer wants to and can make a difference. For themselves, for us and for the markets of today and tomorrow.

Welcome to the <u>Fraunhofer Institute for Integrated Circuits IIS</u>! As the largest institute of the Fraunhofer-Gesellschaft, we have been conducting research for over 30 years in a wide range of topics related to artificial intelligence, microelectronics, sensor technology and data acquisition as well as signal processing and transmission. Talents from various engineering and natural sciences find numerous fields of research under one roof. Some of the flagships that reflect our innovative strength: Neuromorphic computing, 5G/6G mobile technologies, Generative AI in speech and signal processing and X-ray imaging in electromobility. And we do so much more! **What sustainable solutions will you find with us?**

Do you enjoy collecting facts, analyzing background information and are you interested in the transfer of technologies from research to application? Then be there when ideas become innovations!

This is where you create change:

The **»Advanced Analog Circuits«** group is developing Analog/Mixed signal Neuromorphic ASICs for SNNs.

- Circuit Development and Optimization: You are contributing to the development, enhancement, and testing
 of our circuits for cutting-edge SNN accelerators
- Technical Research and Benchmarking: You conduct thorough literature to identify enhancements for SRAM, DFF and counter circuits
- **Schematic and Layout Design:** You examine the existing cells and design better cells in schematic and layout
- Verification and Characterization: You evaluate the improved cells and characterize for digital design flow

The specific tasks you may ultimately take on will be defined in greater detail through discussions with your supervisor.

This is how you contribute:

- You are a master's student in Computer Science, Electronics Engineering or Information Technology or equivalent degree
- You have acquired **initial hands-on experience** with Cadence Design Software
- You possess basic knowledge on CMOS circuits
- You **communicate effectively in English**, both written and spoken
- You are **open-minded**, **motivated**, and enjoy **working in a team**
- You are characterized by an independent and thorough work style, demonstrating initiative

What you can expect from us:

- **Organize your schedule**: Benefit from flexible working hours that are perfectly compatible with your studies.
- Become part of a creative team: Experience an open and collegial working atmosphere in which your ideas are valued.
- **Diversity that inspires**: Look forward to varied tasks that inspire and challenge you.
- Actively shape the future: Take part in application-oriented research and put your theoretical knowledge into practice.
- **Innovations that inspire**: Work on exciting and forward-looking projects that make a real difference.

We will discuss your start date and weekly working hours with you individually (8 to 20 hours per week as a working student or for an internship at least three months). You can reduce your hours before exams and increase them during semester breaks. You can set your working days flexibly. After your studies, there are attractive opportunities to join the institute on a full-time or part-time basis.

We are pleased to offer you the opportunity to write a Master's or Bachelor's thesis in the above-mentioned subject area in collaboration with us. The rules of the university at which you are enrolled apply to the awarding and execution of the work. Please consult a professor of your choice for the supervision of your thesis.

We value and promote the diversity of our employees' skills and therefore welcome all applications – regardless of age, gender, nationality, ethnic and social origin, religion, ideology, disability, sexual orientation and identity. Severely disabled people are given preference if they are equally qualified.

Ready for a change? Then apply <u>online</u> now with you application documents (PDF: cover letter, CV, references) and make a difference!

Do you have questions about the position or application process? Our recruiter Luca Marie Prietz is there for you: Phone +49 9131 776-1678.

Standort: Erlangen

