WISSENSCHAFT UND WIRTSCHAFT IN EINEM JOB GEHT NICHT.

DOCH.

Finden Sie es heraus bei Fraunhofer.

ARE YOU INTERESTED IN HIGH QUALITY DOCTORAL RESEARCH IN THE FIELD OF MEMORY DESIGN? AT FRAUNHOFER YOU CAN MAKE THE MOST OF YOUR TALENTS BY JOINING OUR TEAM. WE CURRENTLY OFFER THE FOLLOWING POSITION:

PHD THESIS: MEMORY DESIGN FOR AI-APPLICATIONS

AI systems are revolutioning our lives. However, these systems require large data centers or GPUs with vast energy consumption. To develop energy-efficient artificially intelligent systems, we are working on innovative memory technologies which require also revolutionary data handling architectures. Our goal is to reduce large and power-hungry systems in a microchip through suitable circuit design concepts. We intend to integrate these on-chip AI systems with advanced sensors for a range of medical, environmental and industrial applications. At Fraunhofer IPMS, we realize world-class AI accelerators using novel non-volatile memory devices in collaboration with renowned German and European partners from science and industry. By merging logic and memory elements, costs and required wafer area can be minimized and, above all, energy efficiency and speed can be maximized.

Your job

Calling all Junior scientists* in memory design! Are you looking for the possibility to apply your curiosity and academic knowledge to the fast evolving field of artificial intelligence? Are you keen to work independently in a scientific area with a divers landscape were the track to follow is not allready mapped out? Positioned at the crossroad of applied science and industrial technology, Fraunhofer IPMS provides you a versatile platform to take the next step in your career!

You will work as a PhD student together with our team to develop an ASIC platform for flexible AI applications. In our research projects you will collaborate with partners from industry and science. You will develop integrated circuits as well as optimized algorithms for the in-memory computing based accelerator platform. Focus will be given to appropriate memory-, sensing- and signal conversion methodologies. You will present the results in journal articles and conferences.

What we expect from you

- Completed scientific university studies in the field of electrical engineering, physics, computer science or comparable (master's or diploma degree)
- Programming experience in VHDL, Verilog, Matlab, or/and Python
- Knowledge in at least one of the following areas is advantageous: deep learning architectures, memory technology, digital ASIC design flows (e.g. Cadence Innovus, Genus) or Design of Sensing- and signal to data conversion circuitries
- Analytical and structured way of thinking and working combined with strong communication skills and assertiveness
- Ability to quickly familiarize yourself with new technical-scientific contexts
- Good written and spoken English as a basis for working in an international team

What you can expect from us

As a self-motivated team player you can work on future AI applications together with our scientific and industry partners. You will grow with us in an emerging field. We encourage an inspiring, international working environment made up of trust, creativity, and team spirit. We give you the space you need for autonomous work, in that you assume the project responsibility for your doctoral promotion. We provide you individually-tailored educational training in our commitment to promote both your personal and professional development.

The doctorate is awarded over a German partner university according to the higher education laws of the respective federal state. Scientific work is scheduled to be carried out at the Center for Nanoelectronic Technologies at the Fraunhofer IPMS business unit in Dresden.

Appointment, remuneration and social security benefits based on the public-sector collective wage agreement (TVöD). Additionally Fraunhofer may grant performance-based variable remuneration components.
The position is initially limited to 3 years.
In case of identical qualifications preference will be given to severely disabled candidates.
We would like to point out that the chosen job title also includes the third gender.
The Fraunhofer-Gesellschaft emphasises gender-independent professional equality.

The **Fraunhofer Institute for Photonic Microsystems (IPMS)** works at the highest international levels for nanoelectronic, mechanical and optical components to support their integration into the tiniest "intelligent" elements and systems. Together with industry, service companies and the public sector, we develop innovative solutions to directly benefit both business and society. Our technologies are found in all relevant markets including information and communications, consumer electronics and the semiconductor industry, as well as the automotive and medical fields.

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Kennziffer: **IPMS-2021-138**   Bewerbungsfrist: **as long as online**

Zurück   Bewerben