



Join US

-Huawei Zurich Research Center



About Us

Huawei Zurich Research Center (ZRC), located in Zurich, Switzerland, focuses on fundamental research in the areas of High Performance Computing, Computer Architecture, Computer Vision, Machine Learning, Artificial Intelligence, Neuromorphic Computing, Cloud, Networking and more.

About Computing Systems Laboratory

The research work of the lab is carried out not only by Huawei's internal research staff but also by our academic research partners in universities across Europe. The lab provides an "open research environment" where academics are encouraged to visit and work on fundamental long-term research alongside Huawei staff in an environment that, like the best universities and research institutes, is open and conducive to scientific work.

Current Team

- Top researchers from ETH, EPFL, Oxford, Cambridge, INRIA, Carnegie Mellon,..
- Top industry researchers and experienced engineers

Application

- Job opportunities: <https://apply.workable.com/huawei-16/?lng=en>
- Scan the QR code to send your CV to us:



Our Research Domains

- CPU architecture: instruction set architecture, microarchitecture, memory system, interconnects
- Hardware Accelerators
- Heterogeneous Architectures and Systems for Datacenters and Cloud
- Parallel, High-Performance, and Distributed Computing
- Compilers and Intermediate Representation

We are currently looking for Researchers in Computing Systems (Architecture, Microarchitecture & Compilation).

Please click on the below link to apply:

<https://apply.workable.com/huawei-16/j/11793816C6/>

Responsibilities:

- Conduct fundamental research in architecture, microarchitecture and compilation
- Identify opportunities for major innovation, develop and execute research plans
- Develop academic research partnerships and cooperations with leading universities and academics
- Work with internal research colleagues and academic research partners to achieve new breakthroughs in research and innovation
- Produce and present research papers at internationally-leading conferences and events
- Produce white papers on current developments and future directions in computer systems
- Contribute to the research and academic community through service such as conference program committee membership, membership of journal editorial boards, etc.

Scan the QR code to apply



Join Us

- Intelligent Cloud Technologies Lab Munich Research Center Zurich Research Center

About us

Huawei Cloud is one of the biggest and fastest growing cloud providers on the planet with 27 geographic regions, 61 availability zones, covering more than 170 countries and ranking 2nd and 5th in terms of cloud market share in China and worldwide respectively. The Intelligent Cloud Technologies Lab as the main R&D hub of Huawei Cloud in Europe is in charge of incubating and developing cutting-edge technologies that will shape the next-generation of the cloud computing industry. We operate at all the layers of the software and hardware stack to cope with the biggest challenges that every cloud provider faces today: skyrocketing of data generation rates and popularity of online services, ever-increasing computing requirements at the edge, and slowdown of technology scaling.

Please do not hesitate to reach us out to know more about our technological breakthroughs!

Team

- Top researchers from EPFL, TUB, TUM, Edinburgh, ...
- Top industry researchers and experienced engineers
- Academic faculty

Application

- Job opportunities: <https://apply.workable.com/huawei-16/>
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Research domains

- Cloud Infrastructure
- Cloud Storage
- Cloud Compute and Virtualization
- Serverless Computing and Cloud-native Architectures
- Edge Computing and Hybrid Clouds
- Data Lakes, Data Warehouses, and Lakehouses
- ML Services and ML-driven Cloud Platforms
- Datacenter Disaggregation
- RDMA-networks and Memory Fabrics
- Multi-domain Compiler Infrastructures
- SmartNICs, SmartSSDs, DPUs, FPGAs
- Hardware-conscious cloud services

Open Positions

(Senior) Architect - Memory Lakes <https://apply.workable.com/huawei-16/j/11793816C6/>

- **Responsibilities:**
- As a member of our Huawei Cloud R&D team, drive the seeding and developing of the next-generation Memory Lakes in Huawei Cloud.
- Be responsible for the research, design, development, testing, and validation of the Data Lakes in the advent of emerging high-performance distributed memory stores exploiting non-volatile memory and microsecond-level network technologies
- Plan intellectual property and academic cooperation strategy, along with formulating a technology roadmap for a competitive and bleeding-edge product portfolio
- Define software requirements and guide the entire prototyping and agile software end-to-end life-cycle, make decisions to realize the key technical solutions, and participate and provide leadership to the team.

Scan the QR code to apply



(Senior) Research Engineer - Memory Lakes <https://apply.workable.com/huawei-16/j/69FC8449D0/>

- **Responsibilities:**
- As a member of our Huawei Cloud R&D team, drive the seeding and developing of the next-generation Memory Lakes in Huawei Cloud.
- Lead the design, development, testing, and validation of the Data Lakes in the advent of emerging high-performance distributed memory stores exploiting non-volatile memory and microsecond-level network technologies
- Plan intellectual property and academic cooperation strategy, along with formulating a technology roadmap for a competitive and bleeding-edge product portfolio
- Define software requirements and guide the entire prototyping and agile software end-to-end life-cycle, make decisions to realize the key technical solutions, and participate and provide guidance to the team

Scan the QR code to apply



(Senior) Software Engineer - Memory Lakes <https://apply.workable.com/huawei-16/j/6F1B05925B/>

- **Responsibilities:**
- As a member of our Huawei Cloud R&D team, drive the seeding and developing of the next-generation Data Lakes in Huawei Cloud
- Design, development, testing, and validation of the Data Lakes in the advent of emerging high-performance distributed memory stores exploiting non-volatile memory and microsecond-level network technologies
- Rapid prototyping of innovative features in Data Lakes using memory stores, object storage, big data, and ML frameworks
- Define software requirements and guide the entire prototyping and agile software end-to-end life-cycle, and make decisions to realize the key technical solutions

Scan the QR code to apply



Join us

- Huawei Dresden Research Centre

About us

Huawei Dresden Research Centre (DRC) is responsible for advancing technical research under the key areas of Smart Mobile, Telecom, Autonomous Driving, Internet of Things, and Industry 4.0. DRC focuses on Operating Systems (OS), concurrent system software, and the interaction between software and modern hardware architectures. Topics of interest include microkernel and hypervisor development, formal verification of concurrent software, and innovative technologies for the Linux kernel. Many of the DRC results have been published at top tier conferences such as ASPLOS [1] and SOSP [2]. As DRC is seeing a rapid growth, we are looking for researchers and engineers in one or more key areas mentioned above, to support the teams in continuing to deliver the best results for the company and outside. Positions are available for several experience levels (e.g., junior, senior). If you are enthusiastic in solving challenging problems of real systems and achieving technological breakthroughs, then join us! We have a distributed team of highly skilled engineers and researchers in our Munich and Dresden offices. We offer a very competitive compensation package.

[1] VSync by Oberhauser et al., ASPLOS' 21, distinguished paper award
[2] CLoF by Chehab et al., SOSP' 21

Requirements (for all positions):

- Master's or PhD degree in computer science or in a related field
- Excellent communication skills and the ability to work in multicultural and distributed teams
- Fluent in written and spoken English

Application



System Software



Linux Kernel



OS Kernel



Hypervisor



Formal Verification

Roles

System Software Researcher/Engineer (m/w/d): bit.ly/drc-systemf

Responsibilities:

- Explore and advance the state-of-the-art of OS technologies and system software
- Integrate into the research roadmap Huawei products requirements for performance and reliability
- Design, implement, and evaluate appropriate solutions and provide prototypes to product teams
- Brainstorm in team discussions, present results and provide guidance to the different involved teams
- Contribute back to research and open source, consolidating and enhancing Huawei's position in the major OS and system communities

Preferred Qualifications:

- OS technologies and system software (e.g., Linux internals, POSIX and libc implementations)
- Multi-core programming and its challenges such as performance, scalability, and correctness
- Fluency in at least two of: C, C++, Rust, Go, Python
- Linux environment, command line, remote shell, and scripting
- Are considered pluses: formal verification (Coq, model checker), LLVM compiler framework, assembly (x86, Arm, RISC-V), non-volatile RAM, publications in top-tier system conferences

Linux Kernel Senior Engineer (m/w/d): bit.ly/drc-linux

Responsibilities:

- Explore and advance the state-of-the-art of OS technologies, especially the Linux kernel
- Integrate into the research roadmap Huawei products requirements for performance and reliability
- Design, implement, and evaluate appropriate solutions and provide prototypes to product teams
- Brainstorm in team discussions, present results and provide guidance to the different involved teams
- Provide substantial contribution to the Linux kernel and related projects, consolidating and enhancing Huawei's position in Linux kernel community

Preferred Qualifications:

- Solid knowledge of C, especially kernel-level
- Python, Rust and Go are considered a plus
- Experience in kernel development and debugging
- Linux environment, command line, remote shell, scripting and collaboration tools
- Deep understanding of Linux kernel internals
- x86 and Arm CPU architectures are considered a plus

Operating System Kernel Engineer/Researcher (m/f/d): bit.ly/drc-kernel

Responsibilities:

- Contribute with your ideas, knowledge and problem-solving skills to the development of our microkernel-based operating system
- Integrate requirements of Huawei product teams into the DRC research roadmap, deliver prototypes and provide guidance in transferring research results into products
- Support the team in publishing the research results at top scientific venues

Preferred Qualifications:

- Fluency in C and/or Rust
- Practical skills with OS development
- Experience with microkernels is an advantage
- Willingness to approach complex problems with creativity and consistency

Hypervisor Engineer (m/f/d): bit.ly/drc-hypervisor

Responsibilities:

- Develop and perform research on hypervisors and virtualization technology on ARM and other architectures
- Integrate requirements of Huawei product teams into the DRC research roadmap, deliver prototypes and provide guidance in transferring research results into products
- Support the team in publishing the research results at top scientific venues

Preferred Qualifications:

- Understanding of OS kernel and/or hypervisor internals
- Kernel-level or bare metal C and assembly languages
- Practical experience with OS kernel or hypervisor development
- Experience with ARMv8 and/or the ARM virtualization extensions
- Familiarity with CPU hardware virtualization features
- Experience with microkernel-based operating systems is an advantage

Formal Verification Researcher/Engineer (m/f/d): bit.ly/drc-formalverif

Responsibilities:

- Conduct research on formal modeling and verification related to operating systems, embedded software and hardware
- Use and contribute to model-driven development tools
- Participate in design and development of formal verification related projects in areas such as operating systems
- Contribute to research in cutting-edge technologies and solutions in the field of formal verification

Preferred Qualifications:

- Knowledge of formal verification tools for model checking and theorem proofs such as Spin, UPPAAL, Coq, Isabelle and Z3
- Publications in the fields of formal verification and theory of programming languages
- Experience in hosting or participation in scientific research projects or practical projects related to formal verification

Our Processor

- Kirin
- HUAWEI Ascend
- Kunpeng
- Balong
- Gigahome

Our Processor

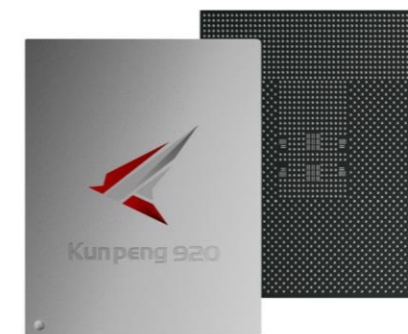
Hisilicon

HiSilicon is a world-leading Fables IC semiconductor and component company. Our chips and solutions have been successfully applied in hundreds of countries and regions, covering communications equipment, smart terminals, optoelectronics, processors, and AI. Huawei has launched Kirin, Balong, Kunpeng, Ascend, and other series chips, which have determined HiSilicon's key position in the semiconductor field



Kirin 9000

- First 5 nm SoC
- 1+3+4 robust and energy efficient CPU architecture
- HUAWEI Da Vinci Architecture 2.0



Kunpeng 920

- Leveraging 7 nm processes and based on the ARMv8 architecture license
- Integrating 64 cores at a frequency of 2.6GHz
- Industry leading 100GE high-speed network interconnection



Ascend 910

- HUAWEI Da Vinci NPU architecture
- 640 TOPS@INT8, 320 TFLOPS@FP16
- Max power 310 W

Building a Fully Connected, Intelligent World



Huawei

Huawei is a leading global information and communications technology (ICT) solutions provider. Through our constant dedication to customer-centric innovation and strong partnerships, we have established leading end-to-end capabilities and strengths across the carrier networks, enterprise, consumer, and cloud computing fields. Our products and solutions have been deployed in over 170 countries serving more than one third of the world's population.

European Research Institute

With 20+ sites across Europe and 1500 researchers, Huawei's European Research Institute (ERI) oversees fundamental and applied technology research, academic research cooperation projects, and strategic technical planning across our network of European R&D facilities.

Zurich Research Center (ZRC)

Huawei's ERI includes the new Zurich Research Center (ZRC), located in Zurich, Switzerland. Our Zurich Research Center focuses on fundamental research in the area of High Performance Computing, Computer Architecture, Computer Vision, Machine Learning, Artificial Intelligence, Neuromorphic Computing, Cloud, Network and more.