

HUAWEI

Central Software Institute

OS Kernel Lab



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OS Kernel Lab

We focus our research on the next-generation OS kernel technologies that feature low latency, high security, high reliability, and high intelligence motivated by ICT, Smartphone, Cloud, and Automotive business scenarios.

Our lab unites many recognized scholars and experts from academia and industry across the world who have significant contributions and influence in research as well as in open source communities.

The lab is cooperating with top universities and established laboratories across the world, such as Tsinghua University, Peking University, Shanghai Jiao Tong University, University of Toronto, TU Dresden and Max Planck Institute for Software Systems, to build cutting-edge operating system technologies.



Our Director



Professor Haibo Chen

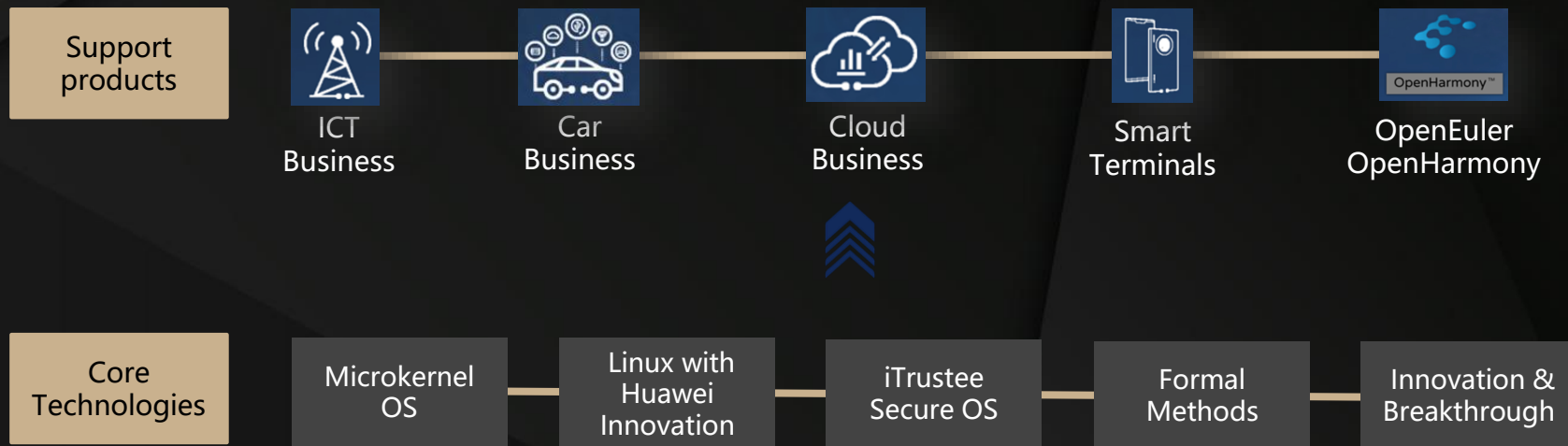
**Chief Scientist of Operating Systems,
Vice President of Central Software Institute,
Huawei**

Haibo Chen is a Distinguished Professor of Shanghai Jiao Tong University. His main research areas are operating systems and distributed systems, and has won the First Prize of Technical Invention by the Ministry of Education of China, China Youth Science and Technology Award, President's Award of Shanghai Jiao Tong University, CCF Young Scientist Award, National Excellent Doctoral Dissertation Award of China, etc. He is currently the Chair of ACM SIGOPS ChinaSys, the Vice Chair of the Special Committee on System Software of the China Computer Federation, serves on the editorial board member and co-chair of Special Sections of Communications of the ACM, and the editorial board member of ACM Transactions on Storage. He has also received Best Paper Awards from ASPLOS, EuroSys, VEE, ICPP and APSys. Meanwhile, he founds and leads the OS Kernel Lab, and currently also serves as the Chief Scientist for Operating Systems and the Vice President of Central Software Institute at Huawei.



Our Business Scope

Two kernels support the evolution of OS in various areas



Our vision: empower core OS technologies to enter into every smart device, vehicle, base station, and cloud.

In the OS Kernel Lab, you can design a new microkernel based operating system or a Linux-based Huawei unified kernel, working on an industry-scale formal verification platform, conceive your own “black” technology and interact with community leaders in open source communities such as Linux, OpenEuler and OpenHarmony.



If you believe that innovation and technologies can change the world,
If you want to focus on research and technique transformation in OS-related fields, build leading competitiveness and ecosystem,
You are welcome to join us!

We are looking for you!



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OS KERNEL LAB, CENTRAL SOFTWARE INSTITUTE

Operating System Engineer / Researcher (m/f/d)

Responsibilities

- Explore the cutting-edge technology in the field of operating systems under the key business scenarios: Smartphone, Telecom, Autonomous Driving, Internet of Things, and Industry 4.0
- Take part in research, design, development and verification of key OS technologies, core modules and algorithms. Working on key areas of Linux Kernel or Huawei self-developed kernel such as: Filesystem, Networking, Memory, Scheduler, etc.
- Make decisions about the implementation of the designed key technical solutions or stack, participate in team-work and provide guidance for the team to make the solutions a reality
- Participate in the development and patch contribution of mainstream open source community
- Work with customers and other relevant departments on the software requirements

Requirements

- A Masters degree or a PhD in computer science or other related discipline
- Deep understanding of mainstream OS solutions and key technologies
- Genuine ideas for the development of new technologies and willingness to transform these ideas into reality
- Knowledge of one or more key modules of the kernel (such as memory management, scheduling, file system, driver, network, etc.), master common debugging technology
- Proficiency in at least one of the programming languages: C/C++ / Python / Go
- Understanding of the mainstream CPU architecture X86 / ARM
- Good cross-regional and cross-cultural communication and collaboration skills



Hypervisor Engineer / Virtualization Researcher (m/f/d)

Responsibilities

- As a member of our virtualization technology research team, you will develop and perform research on hypervisors, and low level hardware virtualization technologies on ARM and other processor architectures
- Focus on new features and performance and reliability improvements of hypervisor. Interact closely with the Operating Systems design teams and define necessary interfaces and perform integration activities
- Work with customers and other relevant departments on the hypervisor requirements
- Support product and collaborating teams with the integration and application of hypervisor deliverables in product lines

Requirements

- A Masters degree or a PhD in computer science or other related discipline
- Deep technological understanding of mainstream OS solutions, kernels and modern hypervisors.
- Experience in kernel programming, bare metal C and assembly languages.
- Understanding of processor hardware virtualization features.
- Knowledge of the ARMv8 CPU architecture and/or the ARM virtualization extensions is a plus.
- Familiarity with safety critical and/or embedded systems is a plus.
- Have genuine ideas for the development of new technologies and be willing to transform these ideas into reality.
- Good cross-regional and cross-cultural communication and collaboration skills



Formal Verification Engineer / Researcher (m/f/d)

Responsibilities

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

Requirements

- A Masters degree or above in computer science, software and theory, software engineering and other related majors
- Knowledge of formal verification tools for model checking and theorem proofs is preferred, such as Spin, UPPAAL, Coq, Isabelle, Z3, etc.
- Publications in the field of formal verification and program language theory are a plus
- Experience in hosting or participation in scientific research projects or practical projects related to formal verification are appreciated
- Good cross-regional and cross-cultural communication and collaboration skills



Become a part of OS Kernel Lab and work with us at five locations

We are located in China,
Germany, Russia, Canada
and the UK



Recruiting Talents and Creating the Future Together

We are looking forward to your contact and application!

China

shipeitao@huawei.com

Germany

leijitang@huawei.com

Russia

shipeitao@huawei.com

Canada

huxiameng@huawei.com

UK

wick.wei@huawei.com



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